

ANNUAL REPORT

Containing Mining Rules

OF THE

MINE INSPECTOR FOR INDIAN TERRITORY

TO THE

SECRETARY OF THE INTERIOR

FOR THE

YEAR ENDED JUNE 30, 1901.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1901.

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SOUTH McALESTER, IND. T., *June 30, 1901.*

SIR: In compliance with the requirements of the act of Congress approved March 3, 1901, entitled "An act for the protection of the lives of miners in the Territories," I have the honor to submit to you my eighth annual report upon the condition of the coal mines in the Indian Territory for the year ending June 30, 1901.

Very respectfully, yours,

LUKE W. BRYAN,

Mine Inspector for the Indian Territory.

Hon. ETHAN ALLEN HITCHCOCK,

Secretary of the Interior, Washington, D. C.

The output of coal in the Indian Territory for the current year has again considerably increased, in addition to which large improvements are now being made which promise a still further increase in production in the following year. A large number of leases which had been applied for under the Curtiss bill have since been perfected and new leases are constantly being applied for. There is at the present writing quite an interest being felt in the coal business in the Indian Territory from all the other States. The extension of various lines of railroad is opening up new fields. It is quite a noticeable fact, however, that all the veins that have recently been opened and the new portion of the veins previously worked in other parts of the Territory are all of a much steeper pitch than anything that has heretofore been worked. For many years it was thought that these steep-pitched veins could not be worked successfully, but with improved methods many of the veins that heretofore were considered too steep to be worked are now being successfully operated. It is true that the advanced price of coal is a factor in making the working of these steep-pitched veins a success, but everything tends, however, in the direction of more extended operations in these steep veins.

Another feature of the new operations is that deeper shafts are being sunk, and there is no doubt that the coal mining of the future in the Indian Territory must be done through the use of much deeper shafts than have previously been sunk.

I regret to have to report an increased number of accidents for the current year, but these may be easily accounted for by the fact of the very many new openings, it being my experience that accidents are much more frequent in this Territory, where fire damp and explosive coal dust exist in such dangerous quantities during the sinking of new shafts and slopes and before it is possible to put the mine in the very best condition for eliminating these dangers.

Output of coal for the Indian Territory for the years ended June 30, 1900 and 1901, by companies.

	Name of producer.	Output (tons).	
		1900.	1901.
1	The McAlester Coal Co. ¹	509,738	466,669
2	Atoka Coal and Mining Co.....	196,736	309,194
3	Osage Coal Mining Co.....	269,580	258,893
4	Southwestern Coal and Improvement Co.....	115,202	185,064
5	McAlester Coal and Mineral Co. and Eastern Coal and Mining Co.....	74,636	173,817
6	Wilburton Coal and Mining Co.....	130,689	132,791
7	Kansas and Texas Coal Co.....	178,697	121,198
8	Mexican Gulf Coal and Transportation Co.....	76,110	96,052
9	Milby & Dow Coal and Mining Co.....	48,121	77,243
10	McAlester Coal Mining Co.....	21,600	75,540
11	Devlin-Wear Coal Co.....	32,936	67,696
12	Perry Bros.....	20,312	66,459
13	Ola Coal and Mining Co.....	31,685	66,000
14	J. B. McDougall.....	23,317	56,406
15	Hailey Coal and Mining Co.....	33,513	55,101
16	Samples Coal and Mining Co.....	24,580	39,026
17	Ozark Coal and Railway Co.....	37,276	36,367
18	D. Edwards & Son.....	13,909	26,452
19	Choctaw Coal and Mining Co.....	1,000	24,936
20	R. Sarlls.....	980	16,667
21	Turkey Creek Coal Co.....	2,358	9,400
22	Wm. Busby-Baker Mines.....	9,713	9,119
23	St. Louis-Galveston Coal Co.....	1,200	8,550
24	M. Perona.....	3,616	3,307
25	Caston Coal Co.....	700	3,224
26	McAlester and Galveston Coal Mining Co.....	.....	2,700
27	H. Newton McEvers.....	100	2,117
28	Folsom Morris Coal Mining Co.....	.....	700
29	Crescent Coal Co. ²	21,640	.....
30	Indianola Coal and Rwy. Co. ²	18,233	.....
31	McAlester Coal Co. ²	800	.....
32	W. H. Ansley ²	300	.....
	Sundry small mines.....	900	1,000
	Total.....	1,900,127	2,391,688

¹ Choctaw, Oklahoma and Gulf R. R. and Kali Inla Coal Co.

² Operated in 1900 and not operated in 1901.

Following is a list of coal companies and individuals operating within the Indian Territory:

	Name.	Railway.	Shipping point.
1	The McAlester Coal Co.....	Choctaw, Oklahoma and Gulf R. R....	Hartshorne and Alderson.
2	Atoka Coal and Mining Co.....	Missouri, Kansas and Texas Rwy....	Lehigh.
3	Osage Coal Mining Co.....	do.....	Krebs.
4	Southwestern Coal and Improvement Co.....	do.....	Coalgate.
5	McAlester Coal and Mineral Co. and Eastern Coal and Mining Co.....	Choctaw, Oklahoma and Gulf R. R....	Wilburton.
6	Wilburton Coal and Mining Co.....	do.....	Do.
7	Kansas and Texas Coal Co.....	Missouri, Kansas and Texas Rwy....	Carbon.
8	Mexican Gulf Coal and Transportation Co.....	Choctaw, Oklahoma and Gulf R. R....	Howe.
9	Milby & Dow Coal and Mining Co.....	do.....	Dow.
10	McAlester Coal Mining Co.....	Missouri, Kansas and Texas Rwy....	Buck.
11	Devlin-Wear Coal Co.....	St. Louis and San Francisco Rwy....	Poteau.
12	Perry Bros.....	Missouri, Kansas and Texas Rwy....	Coalgate.
13	Ola Coal and Mining Co.....	Choctaw, Oklahoma and Gulf R. R....	Wilburton.
14	J. B. McDougall.....	Missouri, Kansas and Texas Rwy....	Coalgate.
15	Hailey Coal and Mining Co.....	Choctaw, Oklahoma and Gulf R. R....	Haileyville.
16	Samples Coal and Mining Co.....	Missouri, Kansas and Texas Rwy....	McAlester.
17	Ozark Coal and Railway Co.....	Kansas City Southern.....	Panama.
18	D. Edwards & Son.....	Missouri, Kansas and Texas Rwy....	McAlester.
19	Choctaw Coal and Mining Co.....	Kansas City Southern.....	Sutter.
20	R. Sarlls.....	Missouri, Kansas and Texas Rwy....	Savanna.
21	Turkey Creek Coal Co.....	Choctaw, Oklahoma and Gulf R. R....	Hughes.
22	Wm. Busby-Baker mines (formerly Archibald Coal and Mining Co.).	Missouri, Kansas and Texas Rwy....	McAlester.
23	St. Louis-Galveston Coal Co.....	do.....	Atoka.
24	M. Perona.....	do.....	Savanna.
25	Caston Coal Co.....	Choctaw, Oklahoma and Gulf R. R....	Wister.
26	McAlester and Galveston Coal Mining Co.....	Missouri, Kansas and Texas Rwy....	McAlester.
27	H. Newton McEvers (formerly McEvers & McAlester).	do.....	Do.
28	Folsom Morris Coal Mining Co.....	do.....	Midway.

PRODUCTION OF COKE IN THE INDIAN TERRITORY FOR THE YEAR 1901.

There are at this writing operating in the Indian Territory 230 coke ovens, with 50 more not yet quite completed, making 280 coke ovens in the Indian Territory. Eighty of these coke ovens are operated by the Osage Coal and Mining Company at or near Krebs, Ind. T. Fifty coke ovens at Alderson and 100 at Howe are operated by the Mexican Gulf Coal and Transportation Company, which company is now in the hands of a receiver.

The production of coke for the past year is as follows:

	Tons.
Osage Coal and Mining Company.....	19,670
Mexican Gulf Coal and Transportation Company.....	14,230

The appended letter from Mr. Franklin Bache, receiver, describes the operations of the Mexican Gulf Coal and Transportation Company:

MEXICAN GULF COAL AND TRANSPORTATION COMPANY,
Howe, Ind. T., September 5, 1901.

DEAR SIR: Beg to acknowledge yours of September 2, asking for the production of coke for the year ending June 30, 1901, for the plant at Alderson and the plant at Howe. There was produced in that time 10,613 tons coke at Alderson, average number of ovens in blast during the time 45, and the ovens at Howe produced 3,617 tons, and I presume that this will average about 15 ovens in blast during the time, as we have half of the battery started now. The whole battery lay dead for the months of October, November, December, January, February, March, April, and part of May. We will have the full battery of 100 ovens started in full blast here in possibly fifteen days.

Trusting that the above information will be sufficient for you to make report from, I am,

Yours, truly,

WILLIAM CAMERON,
United States Mine Inspector, South McAlester, Ind. T.

FRANKLIN BACHE, Receiver.

1. THE McALESTER COAL COMPANY.

This company operates the mines on the leases owned by the Choctaw, Oklahoma and Gulf Railroad. The officials are Franklin Bache, president; Francis E. Bond, treasurer, and Heber Denman, superintendent. The offices of the company are at Hartshorne and Alderson, Ind. T. This company has made extensive improvements during the past year. No. 5 shaft has been connected with No. 7 slope, and the two are now operated as one mine. A new shaft, known as Shaft No. 6, is now in process of sinking and will be over 500 feet deep, at a point about 2 miles east of Alderson. The sinking of a new shaft northeast of Hartshorne has just been commenced. A number of slopes known as the "Bache slopes" have been sunk or are in process of sinking, and are numbered from No. 1 to No. 8.

A tram road, with small locomotive, hauls the coal above ground in pit cars from the Bache slopes to the tippel at railroad.

All the workings of the shafts and slopes described in previous reports have been extended.

HARTSHORNE SHAFT NO. 1.

This is one of the oldest shafts now in operation in the Indian Territory, and its workings have become very extensive. The average thickness of the coal is 4 feet 6 inches, with a dip of 5 degrees in a northerly and easterly direction. The shaft is 202 feet deep. There are four slopes

in operation, known as Nos. 4, 11, 14, and 16, from which 19 entries are turned. The total number of rooms in operation is 193. Hoisting and third compartments are 6 by 8 feet. Air shaft is 40 feet deep, 6 by 6 feet. Average number of men employed, 375. Daily output of coal, 700 tons. Equipment consists of a pair of hoisting engines; maker, McMullen; 200 horsepower; 18 by 30 inch cylinders, with drum 8 feet in diameter, 7-foot face. No. 4 Slope is equipped with a pair of Webster, Camp & Lane engines, 200 horsepower, 18 by 30 inch cylinders, with drum 8 feet in diameter, 7 foot face. No. 3 Slope is equipped with a pair of Webster, Camp & Lane engines, 40 horsepower, 8 by 12-inch cylinders, and drum 3 feet 6 inches by 3 feet. No. 11 Slope is equipped with a pair of Webster, Camp & Lane engines, 40 horsepower, 8 by 12 inch cylinders, with drum 3 feet 6 inches by 3 feet. No. 16 Slope is equipped with Webster, Camp & Lane engines, 40 horsepower, 8 by 12 inch cylinders, with drum 3 feet 6 inches by 3 feet. This mine is also equipped with a Ridgeway Dynamo and Engine Company dynamo, driven by suitable engine, which furnishes power to one 10 by 10 inch pump, one 7 by 8 inch pump, and one 3 by 4 inch pump; also to electric locomotive of 50 horsepower. The voltage carried is 250 volts. Output is shipped via the Choctaw, Oklahoma and Gulf Railroad. The accidents at this mine for the past year have been seventeen, four of which have been fatal. A full description of these accidents will be given under the proper head.

SHAFT NO. 3, AT GOWEN, INDIAN TERRITORY.

This shaft was sunk in the year 1897. Average thickness of coal is 4 feet 6 inches, which dips 5 degrees to the south and west. Shaft is 252 feet deep. A slope driven from the crop is 3,400 feet in length. Seventeen entries are in operation, from which are turned 180 rooms. Hoisting and third compartments of shaft are 6 feet 8 inches. Ventilation is had by means of the slope. The average number of men employed is 300. The daily output is 750 tons. Equipment consists of a pair of Webster, Camp & Lane engines, 200 horsepower, 18 by 30 inch cylinders, with drum 8 feet in diameter, 7-foot face. At the slope a pair of 20 by 30 inch Litchfield engines are used. Ventilation is secured by means of a 10-foot and a 12-foot fan. Steam is generated by a battery of six boilers. Output is shipped via the Choctaw, Oklahoma and Gulf Railroad. The accidents at this mine for the past year have been six, two of which proved fatal.

SHAFT NO. 5 AND SLOPE NO. 7, INDIAN TERRITORY.

Slope No. 7 was sunk in the year 1896. Shaft No. 5 was sunk in the year 1900. The slope is 12 "lifts," or about 3,700 feet in length, connecting with the main east entry of shaft No. 5 at a point about 200 feet distant from the foot of the shaft. The shaft is 542 feet deep. Slope No. 7 and Shaft No. 5 are now operated conjointly as mine No. 5. The average thickness of coal is 3 feet 6 inches, having a dip of 10 degrees in a southerly direction. There are 12 entries, from which 50 rooms are now in operation. Hoisting shaft is 8 by 22 feet, with third compartment 6 feet 8 inches by 8 feet, which is used as air shaft for a 20-foot downcast fan. A 12-foot fan at Slope 7 acts as an upcast and assists the ventilation, which is abundant. The average number of men employed is 200. The equipment of this mine is most extensive

and complete. A pair of Kenney & Co. engines, each with 24 by 36 inch cylinders, with conical downs 6 feet 6 inches to 8 feet 6 inches, each with 36-inch face are used for hoisting. The Norwalk air compressor, formerly in use at No. 1 Slope, which has been abandoned, is installed at this mine and will be used for assisting ventilation, and furnishes motive power for pumps and mining machines. It is also the intention to equip this mine with dynamo and electric machine and locomotive as the mine is extended. The inside slope is equipped with a Webster, Camp & Lane double engine, 18 by 30 inch cylinder and 8-foot drum with 7-foot face. Slope 7 is equipped with Crawford & McCrimmon engine, 24 by 36 inch cylinder, with drum 8 feet in diameter, 6-foot face. The product of this mine is shipped via the Choctaw, Oklahoma and Gulf Railroad from Alderson. There have been during the past year thirty-nine accidents in this mine, eight of which were fatal.

SLOPE NO. 15.

This mine is a short distance east of Alderson. It was commenced in the year 1900. The average thickness of coal is 3 feet 4 inches and dips 14 degrees to the south. The slope has been sunk 1,600 feet. Five entries, from which 20 rooms have been turned, are now in operation. Ventilation is had by means of an air shaft 5 by 5 feet and 20 feet deep. The average number of men employed is 40, and the daily output is 100 tons. Equipment consists of a Nelsonville Foundry and Machine Company double hoisting engine, 10 by 12 inch cylinder, with drum 4 feet in diameter, 3-foot face. Product is shipped via the Choctaw, Oklahoma and Gulf Railroad. There have been two accidents in this mine during the past year, neither of which proved fatal.

BACHE SLOPES.

These consist of eight slopes sunk from a mile to 2 miles east of Alderson and are about 620 feet apart. Slopes Nos. 1, 2, 3, and 4 are in operation, and Nos. 5, 6, 7, and 8 are in process of sinking. The coal in these slopes averages 3 feet 4 inches in thickness, with a dip of 15 degrees to the south. Slope No. 1 is sunk 1,600 feet and has in operation 40 rooms, which are turned from the slope. Air shaft is 5 by 5 feet. Average number of men employed, 60. Daily output, 150 tons. Equipment is one Nelsonville Foundry and Machine Company double hoisting engine, 10 by 12 inch cylinders, with drum 4 feet in diameter, 4-foot face. There were four accidents at this mine during the past year, two of which proved fatal.

Bache Slope No. 2 is sunk 800 feet. Thirty rooms are in operation. Air shaft is 5 by 5 feet. Average number of men employed is 50, and daily output is 100 tons. Equipment is 50-horsepower Nelsonville Foundry and Machine Company double engine, with 10 by 12 inch cylinders and drum 4 feet 10 inches in diameter, 4-foot face. There have been no accidents at this mine during the past year.

Slope No. 3 is sunk 800 feet. Thirty rooms are in operation. Air shaft is 5 by 5 feet. Average number of men employed, 60. Daily output, 100 tons. Equipment is 50-horsepower Nelsonville Foundry and Machine Company double engines with 10 by 12 inch cylinders and drum 4 feet in diameter, 4-foot face. There have been two accidents at this mine during the past year, neither of which proved fatal.

Slope No. 4 is sunk 200 feet. Six rooms have been turned off slope. Air shaft is 5 by 5 feet. Average number of men employed, 12. Daily output, 20 tons. Equipment is 50-horsepower Nelsonville Foundry and Machine Company double engine, with 10 by 12 inch cylinders and drum 4 feet in diameter, 4-foot face. There have been no accidents at this mine during the past year.

Slopes Nos. 5, 6, 7, and 8 in process of sinking.

SLOPES NOS. 18 AND 19.

Slope No. 18 is now being sunk east of Hartshorne, and Slope No. 19 west of Gowen, Ind. T.

Following is the scale of wages paid by the McAlester Coal Company:

Weghmen	per month..	\$65.00	Boss drivers	per month..	\$70.00
Dumppers	per day..	1.75	Track layers	per day..	2.25
Top hands	per day..	\$1.50 to 1.75	Drivers	do....	2.10
Master mechanics	per month..	85.00 to 110.00	Cagers	do....	2.25
Hoisting engineers	per month..	70.00	Gobbers	do....	do....
Slope engineer	do....	60.00	Couplers	do....	do....
Firemen	per day..	1.80	Oilers	per day..	\$0.90 to 1.25
Blacksmiths	do....	2.50	Trappers	do....	.90 to 1.50
Helper	do....	1.50	Screened coal	per ton..	.90
Team and man	do....	2.50	Mine run coal	per ton..	\$0.60 to .65
Stable boss	per month..	60.00	Entry work	per yard..	2.30
Teamster	per day..	1.50	Narrow work	per yard..	\$1.50 to 2.30
Carpenter	do....	2.25	Room turning	each per ton..	.54
Laborer	do....	1.50	Machine helper	per ton..	.54
Pit boss	per month..	100.00	Loaders	do....	.30
Timber boss	do....	do....			

DEDUCTIONS.

Smithing	per month..	\$0.60	Doctor	per month..	\$1.00
House rent	per month..	\$2.00 to 5.50	Territory permits	do....	.25
Powder	per keg..	2.00	Hospital	per month, 10 per cent doctor's fees	

The total product of the mines is shipped via the Choctaw, Oklahoma and Gulf R. R.

Following are the rules of the McAlester Coal Company:

RULES GOVERNING THE MINES OF THE MCALESTER COAL COMPANY.

1. All employees working at these mines shall read these rules, and such as can not read shall have them read to them, and all persons in the service of this company must be governed by these rules and regulations.
2. No person shall be allowed to enter any mine, except employees working in that mine, without written permission from the superintendent.
3. All miners and employees must be in the mine before the 7 o'clock whistle blows in the morning. Drivers must have their mules out of the stable and in their entries, ready for work, and all the other company men be at their places and ready to start work when the 7 o'clock whistle blows.
4. No person shall ride on loaded cars, and no one except rope rider shall ride on rope trip on any slope, except such trip as shall be run at morning and night for carrying men to and from their work, and then only when safety chain is on the cars. All persons are strictly forbidden to cross over from one side of the shaft to the other through the hoisting compartments. Everyone must use passway around bottom of shaft. Wherever there is a manway, persons traveling to and from their work must use it.
5. No person shall go into any old abandoned part of the mine or any other place which is not in actual course of working, without permission from the mine boss, nor shall any one travel to and from work except by the ways provided for that purpose.
6. During the working hours of the mine every employee shall remain at his place of work or duty.
7. No employee or miner shall damage any signal bell, wire brattice, or door, or open a door and not close it again, or do anything by which the safety of the men or the mine may be endangered, and all persons except those duly authorized are strictly forbidden to tamper with any electric apparatus or signal wire about the mine.
8. No miner or other employee shall be entitled to receive his time at the company office until he has obtained a clearance card from the mine boss.

9. In case of any grievance that may arise, the person aggrieved must present his grievance to the pit boss, and should he fail to adjust it, they will refer it to the superintendent, whose decision shall be final. No person shall stop work on account of any grievance, and all matters must be adjusted outside of working hours, such grievance not being such as to endanger the safety of himself or fellow workman.

10. All employees who desire to absent themselves from work must notify the foreman under whom they work the day before of such purpose and state time they expect to be absent.

11. Any tenant of the company's houses, leaving the service of the company voluntarily or involuntarily, will be charged for any damage done, and he will not be entitled to receive any wages due him until the house has been vacated, the keys turned in at the office, and amount of damages be deducted from his wages.

FIRE BOSS.

12. The fire boss shall enter the mine in the morning in time to make a complete examination of the mine before the men enter it. He shall first see that the air is traveling properly, and then proceed to examine the working places. When no gas is found he shall simply mark the date of the month at the entrance to the place and on the coal at the face, which marks will be proof that the place has been examined. If gas is found in a place examined, the fire boss will dead line the place by marking with chalk the date of the month with two or more crosses, thus, X X (date) X X, on a board or timber and placing marked board in the roadway at the entrance of the place. If gas is found in any entry or air course, the dead-line mark shall be placed at a safe distance back from the gas. And under no circumstances must any miner or other person enter a place thus marked. After completing his examination of the mine he shall report to the engineers at the top that men may enter the mine, and he shall mark on the blackboard the condition of the mine, such as falls of rock that he has noticed or any other unusual condition. Should he have found any accumulation of explosive gas in any working place, he shall personally notify the men working in such place as to the danger and notify them not to proceed to work until the danger has been removed. After notifying the men, he shall notify the pit boss, who shall take steps to have gas removed.

13. No unauthorized person shall go into any place or entry where there is an accumulation of explosive gas.

14. The fire boss shall examine all air courses at least once every two weeks, and it shall be his duty to see that all air courses are kept free from falls and in proper condition to keep up the ventilation of the mine.

15. The fire boss shall run the mine as usual on all holidays and idle days, and on Sundays he shall run the mine not later than 8 a. m.

SHOT FIRERS.

16. It shall be the duty of the shot firers to fire all shots, both machine and pick mining, when properly prepared.

17. Shot firers shall not begin to fire shots before 5.30 in the afternoon nor until all the men are out of the mine, and they shall fire only such shots as are properly placed, and that will not endanger the safety of themselves and the mine, or any shots that do not conform to any rules that may be made hereafter.

18. Before firing a shot, the shot firers will first examine for gas in the place, and under no circumstances will they fire where there is any accumulation of gas. Where gas is found it must be carefully removed by brushing till no gas shows in safety lamp. Where gas has been found or in any place making gas, after firing a shot, the shot firer will return and see that no fire has been left from the shot. Shot firer shall not fire more than one room or place at one time.

FIRE RUNNER.

19. It shall be the duty of the fire runner to examine all places where shots have been fired in order to see that no fire has been left from the shots, and they shall mark the date of the month and their initial on coal at the face of all entries as a proof of having examined the place. They shall commence examining mine as soon as possible after shot firers have fired shots. The fire runner shall see that barrels are kept near the face of each entry and that these barrels are kept full of water. Also see that water pipes in each entry are in repair and ready for immediate use; that sufficient hose and all other material is handy for fighting fires. Any deficiency shall be immediately reported to pit boss.

DRIVERS.

20. Drivers shall have mules in their proper entries, ready to begin work at 7 o'clock. Drivers shall have their mules off the slope by 6.55 a. m., before the man trip descends in the morning, and not go onto the slope to go out with the mules until after the man trip has gone up the slope at night, unless otherwise ordered by the driver boss or pit boss.

21. The driver shall take great care in taking his trip down grade and see that cars are properly spragged.

22. He shall leave his mule in a safe place, and if he stops any place on the road, he shall flag at safe distance any drivers following him.

23. No driver shall whip mule with any other instrument other than regular mule whip.

ROPE RIDER.

24. Rope rider shall see that all trips are properly coupled, that all couplings and cars are in safe condition, so as not to wreck on slope.

25. He shall allow no person to ride up and down slope on cars except on man trip, and he shall not run man trip without safety chain from rope to rear end of last car. Man trip shall leave top of slope promptly at 6.55 in the morning and bottom of slope at 5 o'clock in the evening.

SLOPEMEN.

26. Slopemen shall be in slope promptly at 6 o'clock in the morning and see that slope is clear of all rock and obstruction by 7 o'clock.

[CAGER.]

27. Cager shall descend with first cage in the morning, not later than 6.30, and shall remain at his post of duty until men are lowered.

28. He shall see that men are safely off cage and then signal engineer. After hoisting of coal ceases he shall remain at his proper place at the bottom of the shaft till all men are hoisted out. He shall see that not more than eight men or boys travel on one cage at a time, and that tools are not hoisted on same cage with men, nor materials or tools be on the opposite cage when persons are being hoisted, nor shall he allow anyone to travel in pit cars on any cage.

29. He shall not hoist men between hours of 7 a. m. and 5 p. m., except in cases of accident, while there is coal or other material to be hoisted.

30. No one but cager will be allowed to signal engineer from bottom when cager is on duty. Cager will observe code of signals issued to engineer.

TOP MAN.

31. Top man shall be at his place of duty at ground landing of shaft at 6.30 in the morning when men commence to descend and he shall remain there until 7 o'clock, after which time he will not send anyone down the shaft except those duly authorized to use shaft during working hours. After lowering men he will close shaft gates. He shall not allow more than eight men or boys to travel on a cage at one time and shall prevent any pushing or crowding. He shall allow no one to travel on a cage when there is coal, rock, or other material on the opposite cage, nor travel in mine car on any cage. After quitting time, top man shall stand at head of shaft and attend to hoisting of men until all persons are off the bottom of the shaft, or until 5.30 p. m. He shall see that all persons get safely off the cage and then signal to engineer.

DUTIES OF ENGINEER.

32. It shall be the duty of the engineer to keep careful watch of his engine, fan, and other machinery in his charge and see that same are kept in proper repair and working order.

33. He shall examine engine, hoisting rope, and cages once a week and report their condition to master mechanic on blanks furnished for that purpose.

34. He shall not allow any unauthorized person to enter engine house, nor run or handle any of the machinery.

35. The slope engineer, in handling the man trip, both in the morning and after quitting time, shall run a slow rate of speed and shall come to a full stop at each entry where men work.

36. In hoisting in the slope or shaft the engineers shall observe the following code of signals: Signals to shaft engineer from bottom—One bell, hoist cage, coal, or rock; one bell, stop; two bells, lower cage; three bells, men on cage; four bells, hoist slowly; one bell, lowering men from 6.30 to 7 in morning. Signals to shaft engineer from top bell—One bell, cage all right at top; one bell, stop; two bells, lower cage to ground; three bells, lower men; five bells, go to telephone. Signals to slope engineer—One bell, hoist trip; one bell, stop; two bells, lower trip; three bells, hoist slowly; four bells, lower slowly.

In running man trip on the slope the bellman or rope rider will signal the engineer 5 bells, which will notify the engineer there are men on the trip. Then the bellman or rope rider will give the engineer the regular signal to start, and will use the regular signals. There shall be only one man trip in the morning and one man trip after quitting time. The man trip in the morning shall start down slope promptly at 6.55, and the afternoon trip start from the bottom at 5 p. m.

Engineers shall not lower men until the fire boss has completed his examination and reported the mine safe for men to enter.

DUTIES OF MINERS.

37. All miners shall be off the slope by 7 o'clock in the morning, but no one shall enter the mine until the fire boss has examined all places and reported them safe.

38. On going to his working place the miner shall take special care to notice the cautionary marks of the fire boss, and under no circumstances shall he enter his place, if deadlined by crosses, thus, X X (date) X X, till gas has been removed and the place has been pronounced safe by the fire boss or pit boss. When the working place is safe, the date of the month will be marked at the entrance and on the coal at the face.

39. The miner shall keep his place well propped and in a safe condition, and any miner who shall willfully or negligently suffer his room to get out of repair shall, upon order, put same immediately in repair, and if he does not the company will do the work and charge the cost of the work to the miner.

40. Every miner shall order props, cap pieces, or other timber from driver who brings him his cars, and he shall always keep on hand a sufficient quantity, and he shall order the timber and material in advance, so that the driver may have time to bring them. Should the driver fail to bring them within two days, the miner shall report the matter to the pit boss.

41. Miners working in places where explosive gas is generated shall be furnished with a safety lamp, and on entering the place, even if only left for a short time, before entering it again with an open lamp they shall first try the place with a safety lamp to see that no gas has collected, and they shall not take their naked lamp into the place until it is free from gas.

42. No miner shall fire a shot of any kind, either coal, brushing, or machine shot. Any one caught so doing will be immediately discharged.

43. All shots should be properly placed so as not to cause what is known as a bad shot. The shot shall not be drilled beyond the cutting, and shall not be over 40 inches on the solid at any point and be properly balanced.

44. No one shall take more than 8 pounds of powder into the mines at one time.

45. Whenever a workman shall open a box containing powder or other explosive, or while in any manner handling the same, he shall place his lamp not less than 5 feet from the explosive and in such a position that the air current can not convey sparks to it, and he shall not smoke while handling explosives.

46. Miners shall drive places as herein specified or as directed by the pit boss. In case of failure to drive places as specified or directed, yardage will not be turned in by the pit boss till the place is put into proper condition as specified. All entries and haulage roads and rooms shall be brushed to a height of 4½ feet above top of rail. Air course and break-through between entries and air courses shall be everywhere 6 feet wide and break-throughs between rooms shall be at least 4 feet wide. Rooms shall not be over 24 feet in width, and room necks shall be driven narrow for 30 feet before starting to widen out.

47. Any person loading dirt or slaty coal, for the first offense shall be docked 500 pounds; for the second offense, 1,000 pounds; for the third offense, suspended one week or discharged.

48. No miner who has left the employ of the company or who has been discharged shall be entitled to any pay or money due him until he shall put his room in perfect working order as directed by the company, and all miners leaving employ of company will be required to procure the certificate of the pit boss that they have complied with the rule aforesaid before final settlement shall be made.

49. Any person detected violating any of the above rules for which no penalty is named shall be suspended or discharged at the discretion of the superintendent.

H. DENMAN, *Superintendent.*

2. ATOKA COAL AND MINING COMPANY.

This company operates at and near Lehigh, Ind. T. The officers are Edwin Gould, president; R. M. McDowell, vice-president and general manager; James Cameron, superintendent, and J. S. Cameron, assistant superintendent and cashier. During the past year an electric hauling plant has been installed in mine No. 6, a new air shaft has been sunk at mine No. 7 a depth of 75 feet, and a new 15-foot fan erected to take the place of the old 12-foot fan. Mines Nos. 5 and 5½, 6 and 6½, and 7 have been extended, as will be seen by the following details, and considerable coal has been stripped. The following letter from Mr. J. S. Cameron has been received, with tabulated statement, which is here inserted:

ATOKA COAL AND MINING COMPANY,
Lehigh, Ind. T., August 3, 1901.

DEAR SIR: In accordance with your letter of 17th ultimo, I herewith hand you statement of our production for the year ending June 30, 1901, together with the other information asked for.

The figures on powder are from the books of the Phillips Mercantile Company, who handle the powder at this camp, and I have no means of ascertaining their accuracy.

No improvements have been made in or about the mines during the year, with the exception of the installation of an electric haulage plant in mine No. 6 in the latter part of 1900.

Yours, truly,

J. S. CAMERON, *Assistant Superintendent.*

Mr. L. W. BRYAN,

United States Mine Inspector, South McAlester, Ind. T.

Since writing the above it has come to my mind that a new air shaft has been sunk at mine No. 7 a depth of 75 feet and a new 15-foot fan erected at mine No. 6 to take the place of the old 12-foot fan. The fan at mine No. 6½ has been abandoned, as the new fan at No. 6 furnishes ample air for this mine.

J. S. CAMERON.

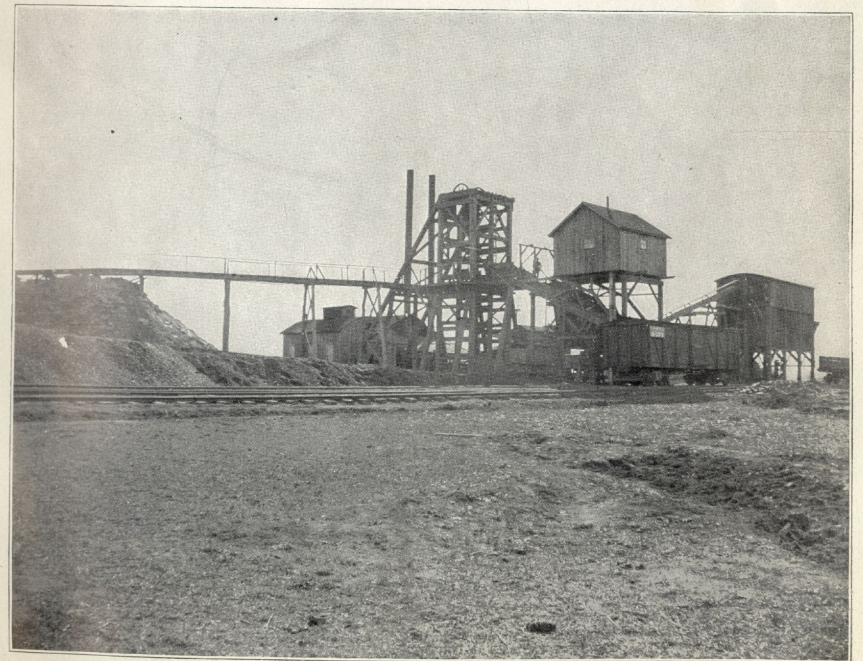
Production of coal for the year July 1, 1900, to June 30, 1901.

Month.	Mine 5.	Mine 6.	Mine 7.	D. and S.	Total.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
July 1900.	7,487.55	8,397.90	19.75	399.10	16,304.30
August	8,361.50	8,255.35	334.35	6,036.65	22,987.85
September.....	6,859.25	7,621.70	674	7,075.65	22,230.60
October	9,138.65	8,032.95	2,368.95	5,336.75	24,876.40
November	9,325.45	4,080.10	3,212.80	9,316.45	25,934.80
December	7,975.35	6,371.80	3,341.15	9,876.05	27,564.35
January 1901.	9,401	7,344	4,833	8,754	30,332
February	8,073	8,105	4,712	7,614	28,504
March	9,420	7,832.50	4,736.50	7,655	29,644
April	10,048	7,085	5,179	5,871	28,183
May	10,454.75	8,004.65	6,295.80	4,892.30	29,647.50
June	7,646	6,700	4,893	3,747	22,986
Total	104,190.50	87,830.95	40,599.40	76,573.95	309,194.80

Approximate number of kegs of powder used..... 8,184
 Average number of days worked..... 272
 Average number of men employed..... 765



MINE NO. 7, LEHIGH. ATOKA COAL AND MINING COMPANY.



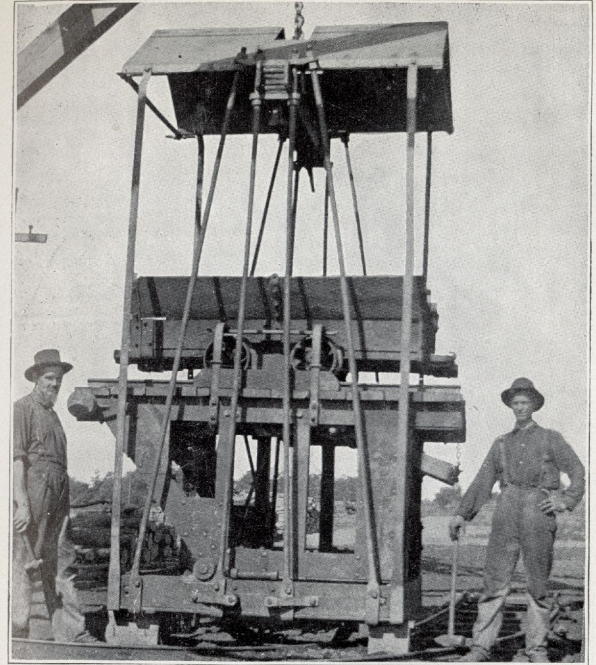
MINE NO. 7, LEHIGH. ATOKA COAL AND MINING COMPANY.



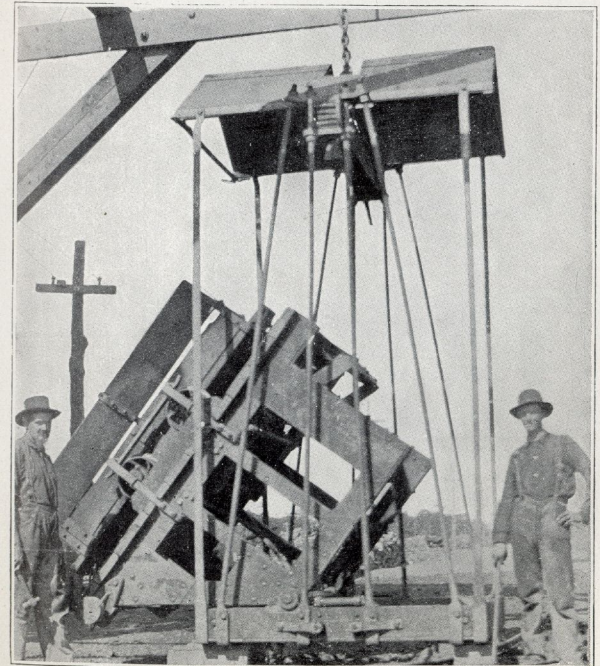
STRIPPING COAL AT LEHIGH, IND. T.



STRIPPING COAL AT LEHIGH, IND. T.



SELF-DUMPING CAGES.



SELF-DUMPING CAGES.

MINE NO. 5 (INCLUDING 5½ SHAFT).

This mine was sunk during the year 1897. Average thickness of coal is 4 feet 8 inches with a dip of 4 inches to the yard, the direction being S. 80° E. Shafts are 200 feet deep. Slope has been sunk 2,000 feet and plane to the rise 1,000 feet. There are at present 12 entries in operation, from which 125 rooms are turned. Hoisting shaft is 7 by 10 feet, with third compartment 7 by 4 feet. Air shaft is 175 feet deep. Average number of men employed 225. Daily output 700 tons. Equipment consists of double Litchfield hoisting engine, 160-horsepower, first motion, 16 by 30 inch cylinders, drum 8 feet in diameter, 8-foot face. Slope engine is 60-horsepower geared single engine, 12 by 24 inch cylinder, drum 6 feet in diameter, 4-foot face. Haulage shaft 5½ is provided with 75-horsepower geared single engine, 12 by 20 inch cylinders, with drum 8 feet in diameter, 8-foot face. There was only one accident at this mine during the past year; not fatal.

MINE NO. 6 (INCLUDING 6½ HAULAGE SHAFT).

This mine was commenced in 1888. Coal is 4 feet 8 inches thick. Dip is 5 inches to the yard, direction being S. 22° E. Shaft is 240 feet deep. Slope is 2,000 feet in length and plane driven to the rise is 1,000 feet. Eleven entries are in operation and 130 rooms are turned therefrom. Hoisting shaft is 7 by 4 feet. Air shaft is 260 feet deep, 6 by 10 feet. The average number of men employed is 200 and the daily output is 500 tons. Equipment is a double Litchfield hoisting engine, 160 horsepower, first motion, with 16 by 30 inch cylinders, and drum 8 feet in diameter, 8-foot face. Slope engine is a single-gear Ranken engine with 14 by 20 inch cylinders and drum 6 feet in diameter, 4-foot face. This mine is also equipped with a Thompson-Ryan dynamo 125-horsepower 220-260 volts driven by a Waterton 150-horsepower automatic engine, 13 by 12 inch cylinders, and which furnishes power for electric lights, Jeffrey mining and shearing machines, and Morgan Gardner shearing machines. There is also an electric locomotive which hauls coal on the main north entry from the foot of the 6½ shaft to the foot of No. 6 shaft. There were five accidents at this mine during the past year, one of which proved fatal.

MINE NO. 7.

This mine was commenced in the year 1900. Coal is 4 feet 6 inches thick with a dip of 3 inches to the yard; direction is S. 72° E. Shaft is 100 feet deep. Slope is sunk 1,000 feet and plane driven to the rise 300 feet. Eight entries are in operation, from which 60 rooms are turned. Hoisting shaft is 7 by 10 feet. Third compartment is 7 by 4 feet. Air shaft is 75 feet deep, 6 by 10 feet. The average number of men employed is 100. Daily output is 300 tons. Equipment consists of a first-motion Keystone 100-horsepower double hoisting engine with 12 by 24 inch cylinders and 6-foot drum with 8-foot face. There were two accidents during the past year, one of which proved fatal.

All the product of the foregoing mines of the Atoka Coal and Mining Company is shipped from Lehigh, Ind. T., over the Missouri, Kansas and Texas Railroad.

Following is the scale of wages paid by the Atoka Coal and Mining Company:

Weighmen	per month..	\$67.50	Boss drivers	per day..	\$2.85
Dumper	per day..	1.80	Tracklayers	do...	2.25
Top hands	do..	1.60	Drivers	do...	2.10
Master mechanics	per month..	100.00	Cagers	do...	2.10
Hoisting engineers	do..	60.00	Gobbers	do...	2.10
Firemen	do..	47.50	Couplers	do...	1.25
Slope engineer	do..	60.00	Oilers	do...	1.10
Blacksmiths	do..	70.00	Trappers	do...	.75
Helper	per day..	1.75	Screened coal	per ton..	.60
Stable boss	do..	2.50	Mine-run coal	do...	.60
Teamster	per month..	47.50	Entry work	per yard..	2.00
Carpenter	do..	42.50	Narrow work	do...	1.60
Laborer	per day..	2.25	Room turning	each..	5.00
Pit boss	do..	1.50	Machine runner	per day..	2.50
Timber boss	per month..	85.00	Machine helper	do...	2.25
	per day..	2.85	Loaders	per ton..	.30

DEDUCTIONS.

Smithing	per month..	\$0.60	Doctor	per month..	\$1.00
House rent	do..	4.50	Territory permits	do..	.20
Powder	per keg..	1.75	Hospital	do..	.10

The following rules are in force in the Atoka Coal and Mining Company mines:

DUTIES OF MINERS.

RULE 1. The miner shall each day examine his working place before beginning work and take down all dangerous slate, or otherwise make it safe by properly timbering the same before commencing to dig or load coal, and he shall at all times be very careful to keep his working place in a safe condition during working hours.

RULE 2. Should he at any time find his place becoming dangerous from any unusual condition that may have arisen, he shall at once cease working and inform the mine boss or his assistant of such danger.

RULE 3. Every miner shall order props, cap pieces, or other necessary timbers from the driver who brings him his cars. The miner shall always have on hand a sufficient quantity of props, cap pieces, and other necessary timbers, and shall order the same in advance so that the driver may have time to bring them. Should the miner from any cause have no props or other necessary timbers on hand, he shall immediately cease work, vacate his working place, and report the fact to the mine boss.

RULE 4. No shot in rooms of full width shall be placed at a greater depth on the solid than the depth of the undermining. In all narrow work, such as entries, room turning, break throughs, etc., the coal must be sheared or cut in on one side the full thickness of the vein and at least the full depth of the drill hole.

RULE 5. Any miner who negligently blows out timbers and causes falls at his working place will be required to clear the same at his own expense. This company will only assist at such clearing or falls when the roof was known to have been bad or there was no negligence shown on the part of the miner.

RULE 6. Any miner loading "bony" coal or any other foreign matter with his coal shall, for the first offense be suspended one day; for a second offense be suspended one week, and for the third offense shall be discharged.

RULE 7. Firing of shots shall take place but once daily, and shall commence at 5 p. m. at a signal to be agreed upon by the mine boss and the miners. In case of men working but half a day, shots may be fired at 12 o'clock noon. Any miner firing before these hours shall be subjected to the same penalties as are specified in rule 6 for loading dirty coal.

RULE 8. Blasting shall commence at first room on return air way, and shall be in rotation, ending in first room on intake air way, and rooms being turned shall wait until entrymen have fired.

RULE 9. Miners firing a shot in break through or in rib shall first warn miners working in next room that such shot is to be fired.

DUTIES OF DRIVERS.

RULE 10. When a driver has occasion to leave his trip, or when a trip for any cause is stopped anywhere except at a regular station, he must see that it is left, when possible, in a safe place secure from cars or other dangers, or from endangering drivers

or trips following; and if the trip is left on a main hauling way he must go back and notify approaching drivers, if any, of the existing obstructions, that they may be enabled to stop their trips and avoid collisions.

RULE 11. The driver must take great care in taking his trips down grade to have the sprags so adjusted that he can keep the cars under control and thus prevent accidents.

RULE 12. On receiving orders from workmen for props, cap pieces, or other necessary timbers, the driver will bring the same with all possible dispatch; and in case, for any reason, they can not be obtained, he will report the fact to the workman so ordering and also to the mine boss.

DUTIES OF ROPE RIDERS.

RULE 13. The position of rope rider being one of peculiar hazard, he must use special care and precaution to avoid the accidents incident thereto.

RULE 14. He shall use great care in seeing that all couplings are safe for use, and see that all trips are properly coupled before starting; and should he at any time see any material defect in the rope, hook, link, or chain, he shall immediately remedy such defect, or, if unable to do so, he shall detain the trip and report the matter to the mine boss.

DUTIES OF CAGERS OR MEN ASSIGNED TO THAT POSITION.

RULE 15. The cager shall be at his proper place at the bottom of the shaft when men begin to descend in the morning, and remain there until the hoisting of coal commences. He shall see that men are safely off the cage and then signal the engineer. He shall be at his proper place at the time the hoisting of coal ceases and men commence to be hoisted in the evening, and shall see that not more than 8 persons get on the cage at any one time, and when they are safely on the cage he shall signal the engineer to hoist them. The man acting as cager during the hoisting of coal shall see that all cars are safely held on cage by the catch provided for that purpose before signaling the engineer. He shall not allow any tools or material of any kind to be placed on the same cage with men or boys nor on the opposite cage when men are being hoisted out of the mine or being lowered into it, except when for the purpose of repairing the shaft or the machinery therein. The men shall place their tools in cars provided for that purpose, which car or cars shall be hoisted or lowered before or after the men have been lowered. In signaling the engineer the topman shall use the signals as directed in general rule No. 30.

DUTIES OF ENGINEERS.

RULE 17. It shall be the duty of the engineer to keep careful watch over his engine and all machinery under his charge, and see that the same is in proper working order before attempting to raise or lower men or material.

RULE 18. He shall see that the boilers are cleaned and inspected at proper intervals, and shall see that the steam pressure does not exceed at any time the limit allowed by the superintendent.

RULE 19. He shall not allow any unauthorized person to enter the engine house, neither shall he allow any person to handle or run the engine without permission of the superintendent.

RULE 20. When workmen are being raised or lowered he shall take special precautions to keep the engines well under control.

RULE 21. The engineer will observe and operate his engine in accordance with the general and special rules governing signals. (See general rule No. 30.)

DUTIES OF FIREMEN.

RULE 22. Every fireman or other person in charge of a boiler or boilers for the generation of steam shall keep a careful watch of the same. He shall see that the steam pressure does not exceed at any time the limit allowed by the superintendent. He shall frequently try the safety valves, and shall not increase the weight on the same. He shall maintain a proper depth of water in each boiler, and if anything should happen to prevent this he shall report the same without delay to the engineer and take such other action as may, under the particular circumstances, be necessary for the protection of life and the preservation of property.

RULES AND REGULATIONS IN REGARD TO POWDER.

RULE 23. No powder can shall be opened in any other manner than that provided by the slide or lead plug provided for that purpose. It is strictly forbidden to use a plug of any kind to drive through the end of a powder keg for the purpose of opening the same.

RULE 24. Powder must be kept in a proper tight-locked box at a sufficient distance from the working face, such distance to be designated by the mine boss.

RULE 25. Whenever a workman shall open a box containing powder or other high explosives, or while in any manner handling the same, he shall first place his lamp not less than 5 feet from such explosives and in such a position that the air current can not convey sparks to it, and he shall not smoke while handling explosives.

GENERAL RULES.

RULE 26. No person shall be allowed to enter any mine, except employees working in the mine, without permission of the superintendent.

RULE 27. No person in a state of intoxication shall be allowed to go into or loiter about any mine.

RULE 28. No person shall be allowed to travel on foot to or from his work on any incline, plane, or slope when other good roads are provided for that purpose. As each mine is provided with a passway around the shaft at the bottom, all persons employed in the mines or others are strictly forbidden to cross over from one side of the shaft to the other side through the hoisting compartment under any circumstances whatever.

RULE 29. Workmen and all other persons are strictly forbidden to commit any nuisance or throw into, deposit, or leave coal, dirt, or stones or other rubbish in the air courses or roads, so as to interfere with, pollute, or hinder the air passing into or out of the mine.

RULE 30. In all shafts or slopes where persons, coal, or material of any kind are hoisted or lowered by machinery the following code of signals shall be used:

One signal—To hoist coal or other material.

Two signals—To stop cage or car when in motion.

Three signals—That persons are to be hoisted; on hearing which the engineer will signal back "ready" by giving one signal. On hearing the last-named signal the persons will get on car or cage, and when they are safely on car or cage one signal shall be given the engineer to hoist. After the hoisting of coal has ceased in the evening and the 5-o'clock whistle has blown, it will only be necessary to give the first three signals for the first three cages of men, after which the one signal "ready" shall be given for each cage until all the men are out.

Four signals—That mules are to be hoisted; on hearing which the engineer will signal back "ready" by giving one signal. On hearing the last-named signal the mule will be placed on the cage, and when it is safely on the cage one signal shall be given the engineer to hoist.

Five signals—Turn steam onto slope or underground engines.

Six signals—Shut steam off from slope or underground engines.

RULE 31. No person or persons shall go into an old or abandoned part of the mine, or into any other place which is not in actual course or working, without the permission of the mine boss, nor shall they travel to or from their work except by the traveling ways provided and assigned for that purpose.

RULE 32. No person in the mine shall be allowed to enter any room or working place except the working place to which his duty calls him. It is strictly forbidden for any person to visit a room or other working place except his own, either during the presence or absence of the proper occupants. All boys or other persons assigned to special posts, as trappers or otherwise, must remain at their post while on duty.

RULE 33. All miners must be in the mine before the 7-o'clock whistle blows in the morning. Drivers must have their mules out of the stable and ready for work, and all other company men must be prepared to start work when the whistle blows at 7 o'clock.

RULE 34. Any person found with tools or powder belonging to another person, without the owner's consent, shall for the first offense be fined \$2.50, and for the second offense he shall be discharged, such fines to be paid to the owner of the tools or powder and collected at the company's office. Any person detected in exchanging checks on the pit cars shall be immediately discharged.

RULE 35. Any miner or other employee who shall damage any signal bell, or wire, brattice, airway, or door, or open a door and not close it again, or do anything by which the safety of the men in the mine may be endangered, shall be immediately discharged.

RULE 36. Whenever it shall be the duty of any person to go into the "sump," or space below the cage at the bottom of the shaft, for the purpose of cleaning out, removing dirt, or otherwise, they shall first place a prop or props of wood or iron in such a manner as to arrest the cage should it from any cause be made to descend, and thus secure themselves or others from possible danger.

RULE 37. All employees who desire to absent themselves from work must notify the foreman under whom they work the day before, and anyone absent without permission will for the first offense be suspended for three days, and for the second offense be suspended for one week, and for the third offense be discharged, except in case of sickness.

RULE 38. All persons, except those duly authorized, are forbidden to meddle or tamper in any way with any electric or signal wire about the mine.

RULE 39. No miner or other employee shall be entitled to receive his time at the company's office until he shall obtain from the mine boss a clearance card, and in case of employees renting a company house a note must be obtained from the superintendent's clerk stating the amount of rent due.

Adopted July 24, 1897.

WILLIAM CAMERON, *Superintendent.*

Approved.

R. M. McDOWELL, *General Manager.*

3. OSAGE COAL AND MINING COMPANY.

The officials of the above company are Edwin Gould, president; R. M. McDowell, vice-president and general manager; A. M. Fellows, general sales agent; S. W. Farnham, engineer and purchasing agent; James Cameron, superintendent; F. W. Hunn, cashier. General office at St. Louis, Mo.; Indian Territory office at Krebs, Ind. T. This is the oldest company operating in the Territory. The output for the current year was somewhat less than for the previous year, owing to an explosion in their No. 5 mine, which suspended operations for several months. This company operates on seven leases with the Choctaw and Chickasaw nations, approved by the Secretary of the Interior. Homer's slope and Church's slope, heretofore reported, have been suspended. Crowder & Co.'s slope has been commenced, and Clelland's slope is still in operation. Shaft mines Nos. 5, 8, 11, and 11½ have been extended. Details of output, etc., with letter from Mr. Cameron, follow:

KREBS, IND. T., *July 26, 1901.*

L. W. BRYAN, Esq.,

United States Mine Inspector, South McAlester, Ind. T.

DEAR SIR: In addition to statement herewith attached, beg to submit the following changes in equipment at mines No. 5 and 11 during past year:

At mine No. 5 a new 10 by 12 double slope engine, with a 5½-foot drum, has been installed on top to take the place of the one destroyed by fire caused by explosion.

At mine No. 11 a new 12 by 20 double Litchfield engine, with a 6-foot drum, has been installed on top for a slope engine.

Two new boilers have been installed, one 72 inches by 18 feet, with 70 by 4 inch flues, and one 48 inches by 14 feet, with twelve 6-inch flues, both built by the John O'Brien Boiler Works, St. Louis, Mo., these boilers taking the place of three cylinder boilers.

The "0" entry has been connected with old No. 10 slope, this making a direct air course to No. 10 air shaft, and has improved the ventilation.

All pumping and ventilation has been suspended at old No. 7 and the same dismantled.

Operations were suspended at Church's slope January 29 and at Homer's slope on June 18, 1901.

There were no other changes of any importance during the past year.

Yours, truly,

JAMES CAMERON, *Superintendent.*

Ample boiler capacity to furnish steam for all engines is on hand, and the ventilation throughout the mine is abundant. There have been six accidents at this mine during the past year, none of which were fatal. Details being given under the general head of accidents. Product is shipped over the Missouri, Kansas and Texas Railroad.

SHAFT MINE NO 5.

This mine was commenced in the year 1895, being first commenced on the long-wall system, but has now been extended on the room and pillar plan. The average thickness of the coal is 3 feet 4½ inches, with a dip of 4½ inches to the yard in a direction S. 27° W. The shaft is 482 feet deep. Slope has been sunk 1,200 feet and plane driven to the rise 1,200 feet. Ten entries, from which 60 rooms have been turned, are in operation. Hoisting shaft is 7 by 12½ feet, with third compartment 3 by 7 feet. The average number of men employed is 150. Equipment is 160-horsepower double Litchfield hoisting engine, 16 by 30 inch cylinders and 8 by 7 foot drum. On the plane, coal is lowered by means of an Ottumwa 75-horsepower double engine, 9 by 10 inch cylinders and 4 by 4 foot drum. On slope, coal is hoisted by means of a 100-horsepower double Ottumwa engine, 10 by 12 inch cylinders and 3½ by 5½ inch drum. Screenings are elevated by means of a 16 by 16 inch single Erie City engine. An Ide & Son single engine, 10 by 12 inch cylinders, drives a 120-kilowatt Westinghouse dynamo of 175-horsepower, 275 volts. Two locomotives for hauling coal in main entries are also driven by electric power; also one 3½ by 4 inch pump and eight mining machines. There were eight accidents in this mine during the past year, six of which proved fatal. Product is shipped via the Missouri, Kansas and Texas Railroad.

SHAFT MINE NO 8.

This mine was reopened in 1899, having been in operation prior to that time and temporarily suspended. The coal is 3 feet 4½ inches thick, with a dip of 4½ inches to the yard, direction being S. 59° W. The shaft is 272 feet deep. Hoisting compartment is 10 feet 8 inches by 5 feet 10 inches, with a third compartment 3 feet by 5 feet 10 inches. Slope has been sunk 900 feet and plane 1,200 feet to the rise. Five entries, from which 30 rooms have been turned, are now in operation. The average number of men employed is 100. Equipment consists of a 160-horsepower double Litchfield engine for hoisting, with 8 by 7 foot drum. A 12 by 24 inch single Crane Brothers engine is used for hoisting on the slope. For elevating screenings an Erie City 9 by 10 inch engine is used. A Ridgeway electric engine with 15 by 16 inch cylinders drives a 100-kilowatt Westinghouse dynamo of 160-horsepower, with voltage of 250, which furnishes power for two Jeffrey chain-breast mining machines. There has been but one accident at the mine during the year, which was not fatal. Product is shipped via the Missouri, Kansas and Texas Railroad.

CROWDER & CO.'S SLOPE.

This slope was commenced in 1900. Coal is 3 feet 2 inches thick with a dip of 4½ inches to the yard, direction S. 59° W. Slope has been sunk 600 feet. Twenty men are employed. A 50-horsepower single hoisting engine, 10 by 15 inch cylinders, 4 by 4 inch drum, furnishes motive power.

CLELLAND'S SLOPE.

This slope was commenced in 1893. Coal is 3 feet 6 inches thick with a dip of 5 inches to the yard, direction N. 32° E. Slope is sunk 900 feet. Fifteen men are employed. A 50-horsepower single hoisting engine, 12 by 24 inch cylinders with drum, is in use.

Following are the rules in force in the mines of the Osage Coal and Mining Company:

DUTIES OF THE BOSSES.

RULE 1. Each fire boss shall enter the mine before the men have entered it, and before proceeding to examine the same he shall see that the air current is traveling in its proper course; and if he finds the air traveling properly, then he shall proceed to examine the workings.

RULE 2. He shall not allow any person except those duly authorized to enter or remain in any part of the mine through which a dangerous accumulation of gas is being passed in the ventilating current from any other part of the mine.

RULE 3. On entering the mines in the morning before the men have entered he shall proceed to examine the same and mark all rooms or working places in the following manner: The day of the month, thus, 30, indicates that inspection has been made and that the room or working place is free from fire damp. Two large crosses with the day of the month between them, thus, X 30 X, indicates the presence of fire damp and extreme danger. These marks must be made on a cap piece or other timber and laid in the roadway at mouth of room or entrance to working place.

RULE 4. After complete examination has been made he shall proceed to the bottom of the shaft and signal to the engineer that the workmen may now descend the shaft. In mines where there are more than one fire boss each fire boss shall allow only such men as work in the portion examined by him to proceed to their working places, and shall detain all others until the arrival of the fire boss who has examined their working places. Should he have found explosive gas or fire damp in any of the working places he shall personally notify the men working in such places as to the danger and warn them not to proceed to work until he has removed the danger. After notifying the men working in the places where he has discovered the fire damp, it will be his duty, as speedily as possible, to take the necessary steps to remove the fire damp and render the place safe for work. He will then notify each man that his place is now free from fire damp. In removing the fire damp it will be his duty to see that the gas so removed will not be carried on the naked lights in the return stairway.

RULE 5. It will be his special duty at all times to see that the air is moving in the proper manner; to look out for falls in the air courses and remove them, if possible. Should the fall or falls be too large for him to remove personally, he will notify the mine boss, whose duty it will be to assign sufficient force to have them removed as speedily as possible.

DUTIES OF MINERS.

RULE 6. As quantities of explosive gas or fire damp are generated in these mines the miner will take special care in entering his room or working place to notice the cautionary marks made for his protection, the marks being made on cap piece or other timber laid in the roadway at the mouth of room or entrance to working place, the marks being as follows: The day of the month, thus, 30, indicates that inspection has been made and that the room or working place is free from fire damp. Two large crosses with the day of the month between them, thus, X 30 X, indicates the presence of fire damp—extreme danger. In case the mark indicates the presence of fire damp, the workman shall not under any circumstances enter such room or working place until the fire boss has again inspected and rendered the place safe.

RULE 7. The miner shall each day examine his working place before beginning work, and take down all dangerous slate or otherwise make it safe by properly timbering the same before commencing to dig or load coal, and he shall at all times be very careful to keep his working place in a safe condition during working hours.

RULE 8. Should he at any time find his place becoming dangerous from any unusual condition that may have arisen, he shall at once cease working and inform the mine boss or his assistant of such danger.

RULE 9. Every miner shall order props, cap pieces, or other necessary timbers from the driver who brings him his cars. The miner shall always keep on hand a suffi-

cient quantity of props, cap pieces, and other necessary timbers, and shall order the same in advance, so that the driver may have time to bring them. Should the miner, from any cause, have no props or other necessary timbers on hand, he shall immediately cease work, vacate his working place, and report the fact to the mine boss.

RULE 10. All coal must be undercut at least 2 feet in rooms, and no shot be placed so that the point of the shot or any part of the powder shall be more than 4 feet from the face or more than 2 feet beyond the undercutting. All entries or other narrow work done under 12 feet wide to be undercut to full depth of holes drilled for blasting.

RULE 11. In case timbers are blown out, causing falls at the working face, owing to the negligence of the miner, he will be required to clear such falls at his own expense. The company will only assist where the roof was known to have been bad or there was no negligence shown on the part of the miner.

RULE 12. Any miner loading "bony" coal or any foreign matter with his coal shall for the first offense be suspended one day, for a second offense be suspended one week, and for the third offense shall be discharged.

DUTIES OF DRIVERS.

RULE 13. When a driver has occasion to leave his trip, or when his trip for any cause is stopped anywhere except at a regular station, he must see that it is left when possible in a safe place, secure from cars or other dangers or from endangering drivers or other trips following, and if the trip is left in a main hauling way, he must go back and notify approaching drivers, if any, of the existing obstruction, that they may be enabled to stop their trips and avoid collisions.

RULE 14. The driver must take care in taking his trip down grade to have his sprags so adjusted that he can keep the cars under control and thus prevent accidents.

RULE 15. On receiving orders from workmen for props, cap pieces, or other necessary timbers, the driver will bring the same with all possible dispatch, and in case for any reason they can not be obtained, he will report the fact to the workman so ordering and also to the mine boss.

DUTIES OF ROPE RIDERS.

RULE 16. The position of rope rider being one of peculiar hazard, he must use special care and precaution to avoid the dangers incident thereto.

RULE 17. He shall exercise great care in seeing that all couplings are safe for use, and see that all trips are properly coupled before starting; and should he at any time see any material defect in the rope, link, hook, or chain, he will immediately remedy such defect, and if unable to do so he shall detain the trip and report the matter to the mine boss.

DUTIES OF CAGERS OR MEN ASSIGNED TO THAT POSITION.

RULE 18. The cager shall be at his proper place at the bottom of the shaft when men begin to descend in the morning and remain there until hoisting of coal commences. He shall see that men are safely off the cage and then signal the engineer. He shall be at his proper place at the time the hoisting of coal ceases and men commence to be hoisted in the evening, and shall see that not more than six persons get on the cage at any one time, and when they are safely on the cage he shall signal the engineer to hoist them. The man acting as cager during the hoisting of coal shall see that all cars are held safely on the cage by the catch provided for that purpose before signaling the engineer. He shall not allow any materials or tools of any kind to be placed on the same cage with men or boys, nor on the opposite cage when men are being hoisted out of the mine or lowered into it, except for the purpose of repairing the shaft or the machinery therein. The men shall place their tools in cars provided for that purpose, which car or cars shall be hoisted or lowered before or after the men have been hoisted or lowered, and he shall immediately inform the mine boss of any violation of this rule. In signaling the engineer the cager shall use the signals as directed in general rule No. 43.

DUTIES OF SHOT FIRERS.

(The rules governing shot firers apply only to mines worked on the room and pillar plan, such as mines Nos. 10 and 11, and do not apply to mines worked on the long-wall plan, such as mine No. 5.)

RULE 19. Shot firers must not fire any shots unless the coal is properly cut in accordance with the two following sections, nor unless said shot is otherwise and in all respects proper and safe.

SEC. 1. All coal must be undercut at least 2 feet in rooms, and no shot to be placed so that the point of the shot or any part of the powder shall be more than 4 feet from the face or more than 2 feet from the undercutting.

SEC. 2. All entries or other narrow work under 12 feet wide to be undercut to full depth of holes drilled for blasting.

RULE 20. Shot firers must fire only one shot at a time in any separate split of air, and the following shot must not be lit until the smoke has cleared away.

RULE 21. No shot to be fired while anyone except the shot firers are in the mines, except by special permission of the mine boss, and the shot firers shall not enter the mine for the purpose of firing until all of the men are out of the mine.

RULE 22. Shot firers must commence firing at a point farthest from the intake airway, and proceed with the firing in a direction opposite to that in which the air is traveling.

DUTIES OF TOPMEN OR MEN ASSIGNED TO THAT POSITION.

RULE 23. He shall be at his proper place in the morning from the time the persons begin to descend into the mine, and shall remain there until the hoisting of coal begins. He shall see that no more than six persons get on the cage at any one time, and he shall not open the gate until cage has been placed in position to receive the men. After the hoisting of coal ceases in the evening it shall be his duty to be at his proper place until all of the men are hoisted from the mine. He shall see that men get safely off the cage, and shall then signal the engineer in the proper manner. He shall not allow any tools or material of any kind to be placed on the same cage with men or boys, nor on the opposite cage when men are being lowered into the mine, except for the purpose of repairing the shaft or the machinery therein. The men shall place their tools in cars provided for that purpose, which car or cars shall be lowered before or after the men have been lowered. In signaling the engineer the topman shall use the signals as directed in rule No. 43.

RULE 24. At shafts not using self-dumping cages the topman shall see that the stops for cages to rest upon are kept in good working order, and he must remove loaded cars carefully, and in placing empty cars on cage he must see that the car is securely held by the catch provided for that purpose before signaling the engineer.

DUTIES OF ENGINEERS.

RULE 25. It shall be the duty of the engineer to keep careful watch over his engine and all machinery under his charge and see that the same is in proper working order before attempting to raise or lower men or material.

RULE 26. He shall see that the boilers are properly cleaned and inspected at proper intervals and see that the steam pressure does not exceed at any time the limit allowed by the superintendent.

RULE 27. He shall not allow any unauthorized person to enter the engine house; neither shall he allow any person to handle or run the engine without the permission of the superintendent.

RULE 28. When workmen are being raised or lowered he shall take special precautions to keep the engine well under control.

RULE 29. The engineer will observe and operate his engine in accordance with the general and special rules governing signals. (See general rule No. 43.)

DUTIES OF FIREMEN.

RULE 30. Every fireman or other person in charge of a boiler or boilers for the generation of steam shall keep a careful watch of the same. He shall see that the steam pressure does not exceed at any time the limit allowed by the superintendent. He shall frequently try the safety valves and shall not increase the weight on the same. He shall maintain a proper depth of water in each boiler, and if anything should happen to prevent this he shall report the same without any delay to the engineer and take such other action as may under the peculiar circumstances be necessary for the protection of life or the preservation of property.

RULES AND REGULATIONS IN REGARD TO POWDER.

RULE 31. All persons, except those appointed by the coal company or the mercantile company having charge of the powder sales, are prohibited from entering the powder house under any pretense whatever.

RULE 32. The use of tobacco in any form by any person while in the performance of his duties in and around the powder house is strictly prohibited. Neither shall any person enter a powder house with matches or any other ignitable material about his person.

RULE 33. No powder keg shall be opened in any other manner than by the slide or lead plug provided for that purpose. It is strictly prohibited to use a plug of any kind to drive through the end of a powder keg for the purpose of opening the same.

RULE 34. It will be the duty of those authorized who perform this work to see that no person enters the powder house while said work is in progress; also to govern their actions by the above regulations.

RULE 35. No lights of any kind shall be allowed in or around the powder house.

RULE 36. No powder or high explosives shall be taken into the mine by any one man in greater quantities than required for use in one day (unless such quantity be 5 pounds or less), and all powder shall be sent or carried into the mine in metallic canisters.

RULE 37. Powder must be kept in proper air-tight powder cans, and the cans must be kept in a close tight-locked box, said box to be at least 300 feet from any working face and only at points designated by the mine boss.

RULE 38. Whenever a workman shall open a box containing powder or other explosives, or while in any manner handling the same, he shall first place his lamp not less than 5 feet from such explosives in such a position that the air current can not convey sparks to it, and he shall not smoke while handling explosives.

GENERAL RULES.

RULE 39. No person shall be allowed to enter any mine except employees working in the mine, without permission of the superintendent.

RULE 40. No person in a state of intoxication shall be allowed to go into or loiter about any mine.

RULE 41. No person shall be allowed to travel on foot to or from his work on any incline, plane, or slope when other good roads are provided for that purpose. As each mine is provided with a passway around the shaft at the bottom, all persons employed in the mine or others are strictly forbidden to cross over from one side of the shaft to the other side through the hoisting compartment under any circumstances whatever.

RULE 42. Workmen and all others are strictly forbidden to commit any nuisance, or throw into or deposit, or leave coal, dirt, or stones, or other rubbish in the air-courses or roads so as to interfere with, pollute, or hinder the air passing into or out of the mine.

RULE 43. In all shafts or slopes where persons, coal, or material of any kind are hoisted or lowered by machinery the following code of signals shall be used:

One signal.—To hoist coal or other material.

One signal.—To stop cage or car when in motion.

Two signals.—To lower cage or car.

Three signals.—That persons are to be hoisted, on hearing which the engineer will signal back "ready" by giving one signal. On hearing the last-named signal the persons will get on car or cage, and when they are safely on car or cage one signal shall be given the engineer to hoist. After the hoisting of coal has ceased in the evening and the 5 o'clock whistle has blown, it will only be necessary to give the first three signals for the first three cages of men hoisted, after which one signal, "ready," will be given for each cage until the men are all out.

Four signals.—That mules are to be hoisted, on hearing which the engineer shall signal "ready" by giving one signal. On hearing the last-named signal the mule will be placed on the cage, and when it is safely on the cage one signal, "ready," will be given the engineer to hoist.

Five signals.—Turn steam onto slope or underground engines.

Six signals.—Shut steam off from slope or underground engines.

RULE 44. No person shall go into any old or abandoned part of the mine or in any other place which is not in actual course of working without permission of the mine boss, nor shall they travel to and from their work except by the traveling ways provided and assigned for that purpose.

RULE 45. No person in the mine shall be allowed to enter any room or working place except the working place to which his duties call him. It is strictly forbidden for any person to visit a room or working place, except his own, either during the presence or absence of its proper occupants. All boys or other persons assigned to special posts as trappers or otherwise must remain at their posts while on duty.

RULE 46. All miners must be in the mine before the 7 o'clock whistle blows in the morning. Drivers must have their mules out of the stable and ready for work when the whistle blows at 7 o'clock.

RULE 47. Any person found with tools or powder belonging to another, or taking or using tools or powder belonging to another, without the owner's consent, shall, for the first offense, be fined \$2.50, and for the second offense he shall be discharged, such fines to be paid to the owner of the tools and collected at the company's office; and any person detected in exchanging checks on pit cars shall be immediately discharged.

RULE 48. Any miner or employee who shall damage any signal bell or wire, brattice, air way, or door, or open a door and not close it again, or do anything by which the safety of the men or mine may be endangered, shall be promptly discharged.

RULE 49. Whenever it shall be the duty of any person to go into the "sump" or space below the cage at the bottom of the shaft, for the purpose of cleaning out, removing dirt, or otherwise, they shall first place a prop or props of wood or iron in such a manner as to arrest the cage should it from any cause be made to descend, and thus secure themselves or others from possible danger.

RULE 50. All employees who desire to absent themselves from work must notify the foreman under whom they work the day before; and anyone absent without permission will, for the first offense, be suspended three days, and for the second offense be suspended one week, and for the third offense be discharged, except in case of sickness.

RULE 51. Any persons, except those duly authorized, are forbidden to meddle or tamper in any way with any electric or signal wire about the mine.

RULE 52. No miner or other employee shall be entitled to receive his time at the company's office until he shall obtain from the mine boss a clearance card; and in case of employees renting a company house, a note must be obtained from superintendent's clerk stating the amount of rent due.

Adopted July 24, 1897.

WILLIAM CAMERON,
Superintendent.

Approved.

R. M. McDOWELL,
General Manager.

The following is the scale of wages paid by the Osage Coal and Mining Company:

Weightmen.....per month..	\$67.00	Carpenter.....per day..	\$2.50
Dumpers.....per day..	1.80	Laborer.....do....	1.60
Top hands.....do....	1.60	Pit boss.....per month..	80.00
Master mechanic.....per month..	100.00	Timber boss.....per day..	2.35
Hoisting engineers.....do....	75.00	Boss drivers.....do....	2.35
Slope engineer.....per day..	2.00	Track layers.....do....	2.25
Firemen.....do....	1.80	Drivers.....do....	2.10
Blacksmiths.....per month..	70.00	Cagers.....do....	2.10
Helpers.....per day..	1.60	Gobbers.....do....	2.10
Team and man.....do....	2.50	Couplers.....do....	1.50
Stable boss.....per month..	50.00	Trappers.....do....	.90
Oilers.....per day..	1.35	Mine run coal.....per ton ¹ ..	.60
Screened coal.....per ton ¹ ..	.75	Narrow work.....per yard..	1.60
Entry work.....per yard..	2.00	Machine runner.....per day..	2.65
Room turning.....each..	5.00	Loaders:	
Machine helper.....per day..	2.40	Mine run.....per ton..	.24
Teamster.....per month..	42.50	Screen.....do....	.30

DEDUCTIONS.

Smithing.....per month..	\$0.60	Powder.....per keg..	\$2.50
House rent:		Doctor.....per month..	1.00
Small house.....do....	2.50	Territory permits.....do....	.20
Large house.....do....	4.50		

12,000 pounds.

4. SOUTHWESTERN COAL AND IMPROVEMENT COMPANY.

This company operates at Coalgate, Ind. T. The officials are A. A. Allen, general manager; I. M. Fleming, superintendent; D. C. Welch, auditor; R. P. Roach, cashier. General offices are at Parsons, Kans. Shaft mines Nos. 4 and 9 are in operation. Considerable coal has been

stripped during the past year. The following letter from Mr. D. C. Welch gives tonnage, etc.:

SOUTHWESTERN COAL AND IMPROVEMENT COMPANY,
Parsons, Kans., July 31, 1901.

Mr. L. W. BRYAN,

United States Mine Inspector, South McAlester, Ind. T.

DEAR SIR: Replying to your favor of July 17, asking for our standard tonnage of each mine at Coalgate, beg to say that we have been so very much rushed here that it has been impossible to get this work up for you until now. Below you will find a statement of tonnage and number of men employed:

Mine No. 4.....	tons..	75,818
Mine No. 9.....	do.....	90,306
Drift and strip.....	do.....	18,940
Total.....	do.....	185,064
Average number of men employed.....		370
Number of days worked.....		300

As we do not issue the powder to our men at Coalgate, you can no doubt get this information from J. B. McDougall, who furnishes it, but if you will compare this with last year's sale of powder you can arrive at a very close estimate.

Your letter has been turned over to Superintendent Fleming, who may wish to give information concerning mine matters in general.

Yours, truly,

D. C. WELCH.

SHAFT MINE NO. 4.

This mine was opened in 1892. Average thickness of coal is 4 feet 4 inches, with a dip of 5 inches to the yard in an eastern direction. Shaft is 150 feet deep. Hoisting compartment is 7 by 14 feet, third compartment being 7 by 3½ feet. Slope is sunk 1,000 feet. Seven entries, from which 80 rooms are turned, are now in operation. The average number of men employed is 175. Equipment consists of 160-horsepower double western engines for hoisting, with 16 by 28 inch cylinder, 5½ by 6 foot drum. Slope engine is a 60-horsepower single Litchfield engine, 12 by 20 inch cylinders, and 5 by 6 foot drum. Boiler capacity is ample and ventilation abundant. Product is shipped from Coalgate via the Missouri, Kansas and Texas Railroad.

SHAFT MINE NO. 9.

This mine was opened in 1899. Average thickness of coal is 4 feet 6 inches. Dip is 7 inches to the yard in a southern direction. Shaft is 325 feet deep. Hoisting compartment is 8 feet by 12 inches, with third compartment 7 by 3½ feet. Slope is sunk 600 feet to the dip and plane 1,600 feet to the rise. Ten entries are driven, from which 90 rooms have been turned. Air shaft is 50 feet deep, 6 by 8 feet. The average number of men employed is 210. Equipment consists of a Webster, Camp & Lane double hoisting engine, 160 horsepower, cylinders 16 by 30 inches, with drum 7 by 8 feet. Slope engine is a single 50-horsepower 12 by 18 inch engine, with 5 x 6 foot drum. Plane is equipped with 80-horsepower double Ottumwa engine, 15 by 16 inch cylinders, and 5 by 5 foot drum. Boiler capacity is ample and ventilation abundant. Product is shipped from Coalgate via the Missouri, Kansas and Texas Railroad.

DRIFT AND STRIP PITS.

At the strip pits a slope is sunk 900 feet. Four entries with 30 rooms are turned. Ventilation is provided by means of a 40-foot shaft 5 by 6 feet. Sixty men are employed. A 40-horsepower single engine with 10 by 14 inch cylinder and 4 by 5 foot drum.

Following is the scale of wages paid by the Southwestern Coal and Improvement Company:

Weighmen.....	per month..	\$65.00	Teamster.....	per month..	
Dumpers.....	per day..	1.80	Carpenter.....	per day..	2.50
Top hands.....	do.....	1.60	Laborer.....	do.....	1.60
Master mechanics.....	per month..	95.00	Pit boss.....	per month..	95.00
Hoisting engineers.....	do.....	75.00	Timber boss.....	do.....	
Slope engineer.....	do.....	60.00	Boss drivers.....	per day..	2.35
Firemen.....	per day..	1.60	Track layers.....	do.....	2.25
Blacksmiths.....	per month..	70.00	Drivers.....	do.....	2.10
Helper.....	per day..	1.80	Cagers.....	do.....	2.25
Team and man.....	do.....	2.50	Gobbers.....	do.....	2.10
Stable boss.....	per month..	45.00	Couplers.....	do.....	2.10
Oilers.....	per day..	1.00	Trappers.....	do.....	.75
Screened coal.....	per ton..	.75	Mine-run coal.....	per ton..	.60
Entry work.....	per yard..	2.00	Narrow work.....	per yard..	1.60
Room turning.....	each..	5.00			

DEDUCTIONS.

Smithing.....	per month..	\$1.00	Doctor.....	per month..	\$1.00
House rent.....	per month..	\$3.50 to 4.75	Territory permits.....	do.....	.20
Powder.....	per keg..	1.75			

5. McALESTER COAL AND MINERAL COMPANY AND EASTERN COAL AND MINING COMPANY.

These two companies have now seventeen openings in operation, there being one shaft and the remainder being slopes covering a distance of 4 miles along the crop of the coal. These slopes are provided, some of them, with engines for hoisting, and those recently opened are at present operated by gin power. A portion of the slopes are ventilated by fans and a portion by furnaces. Escapements are furnished for the men, or else are in course of construction.

The above-named two companies are extending their operations to a very great extent, having constructed during the past year several miles of railroad through their property and having in the meantime, while opening a large number of mines, kept their mines Nos. 1, 2, 6, and 7, in continuous operation. They have been buying and erecting the necessary machinery and preparing for a very large output of coal.

6. WILBURTON COAL AND MINING COMPANY.

This company operates five slope mines near the town of Wilburton. Slope mines Nos. 1 and 2 are double, the one being immediately above the other. Slopes Nos. 3, 4, and 6 are single. A large amount of improvement has been made at these mines; shaker screens have been put in and preparation made for an increased output. Mr. William Busby is president and general manager. General offices are at Parsons, Kans. Shipment of product is made over the Choctaw, Oklahoma and Gulf Railroad from Wilburton Ind. T.

SLOPE MINES NOS. 1 AND 2.

These slopes were both commenced in the year 1898. Slope No. 1 is 500 feet in length; average thickness of coal is 6 feet, with a dip of 24 degrees to the north. Slope No. 2, on the upper vein, is 600 feet

in length, and the coal is 4½ feet thick, with a pitch of 22 degrees to the north. Both slopes are sunk to a distance of 700 feet. Seventeen entries, from which 85 rooms are turned, are in operation. There are two air shafts communicating with Slope No. 1, 65 feet and 35 feet, respectively, and 6 by 8 feet in size. Two air shafts also communicate with Slope No. 2, each 25 feet in depth and 6 by 6 feet in size. These air shafts also furnish escapement, and are suitably provided with stairways for that purpose. About 200 men are employed in the slopes, and the daily output is 250 tons. For hoisting purposes in both slopes a 175-horsepower engine, manufactured by the Riverside Iron Works, in Kansas City, is used, with 14 by 24 inch cylinders, 7-foot drum, brake, and all necessary appliances. For furnishing air to Slope No. 1 a 12-foot Alton fan is used, while a 10-foot fan manufactured by the South McAlester (Ind. T.) Foundry Company furnishes sufficient air at Slope No. 2. No electric machinery is used in the mines of the Wilburton Mining Company. This mine is well equipped in all particulars, and the requirements of the law are fully met.

There were five accidents at these slopes last year, one of which proved fatal.

WILBURTON SLOPE NO. 3.

This slope was commenced in the year 1898. The coal is 4½ feet in thickness and pitches 17 degrees to the north. The slope is sunk 550 feet. Four entries are turned, and 26 rooms are in present operation. Air shafts are 18 and 20 feet deep, 5 by 5 feet and 6 by 6 feet. The average number of men employed is 37, and the daily output is about 100 tons. A Lidgerwood double engine of 30 horsepower, with cylinders 7 by 10 inches, furnishes hoisting power, and is supplied with steam by a 54 inch by 14 foot boiler manufactured by Palmer & Sons, of Kansas City. A 10-foot fan manufactured by the South McAlester (Ind. T.) Foundry Company supplies sufficient air. Escapements are provided by the air shafts, which are suitably provided with stairways. The mine is fairly well equipped, and the requirements of the law are complied with.

There was one accident at the mine last year, which proved fatal.

WILBURTON SLOPE NO. 6.

This slope, which was commenced during the year 1899, is sunk 580 feet. The coal is 5½ feet thick and has a dip of 26 degrees to the north. Seven entries are turned and 20 rooms at present in operation. Air shafts are 17 and 22 feet, respectively, 4½ by 4½ feet in size. Fifty men are employed, and the daily output is about 125 tons. Coal is hoisted by a 30-horsepower double Crook engine with 7 by 10 cylinder, with drum, brake, and other appliances, steam for which is supplied by a 42 inch by 12 foot locomotive portable boiler. A 12-foot Alton fan furnishes air. Escapement is had by means of the air shaft, which is provided with suitable stairway. All the requirements of the law are complied with. There was one accident at this mine during the past year; not fatal.

SLOPE MINE NO. 4.

This slope was commenced during the present year. The average thickness of the coal is 4½ feet. The dip is 15 degrees to the north. Slope is sunk 335 feet. Four entries are turned and four rooms are

in operation. Air shaft is 18 feet deep, 6 by 7. The average number of men employed is 23. Equipment consists of a 150-horsepower double Riverdale Iron Works engine, 14 by 24 inch. cylinders, with 6 by 8 foot drum. Suitable boiler capacity is at hand. Ventilation is good and the requirements of the law are fully met.

Weighmen	per month..	\$75.00	Teamster	per month..	\$40.00
Dumpers	per day..	1.50	Carpenter	per day..	2.00
Top hands	do..	1.50	Laborer	do..	1.50
Master mechanics	per month..	100.00	Pitt boss	per month..	125.00
Hoisting engineers	per day..	2.00	Timber boss	per day..	2.50
Slope engineer	do..	2.00	Boss drivers	do..	2.75
Firemen	do..	1.80	Tracklayers	do..	2.50
Blacksmiths	do..	2.50	Drivers	do..	2.10
Helpers	do..	1.75	Cagers	do..	2.10
Team and man	do..	2.50	Gobbers	do..	2.10
Stable boss	per month..	30.00	Couplers	do..	1.25
Oilers	per day..	1.25	Trappers	do..	.90
Screened coal	per ton..	.....	Mine run coal	per ton..	.60
Entry work	per yard..	1.60	Narrow work	per yard..	1.60
Room turning	each..	5.00	Machine runner	per day..	2.50
Machine helper	per day..	2.10	Loaders	per ton..	2.10

DEDUCTIONS;

Smithing	per month..	\$0.50	Doctor	per month..	\$1.00
House rent	do..	4.00	Territorial permits	do..	2.25
Powder	per keg..	2.25	Hospital	do..	.....

7. KANSAS AND TEXAS COAL COMPANY.

The officials of this company are: B. F. Hobart, president, St. Louis, Mo.; W. P. Heath, secretary and treasurer, St. Louis, Mo.; F. E. Doubleday, general manager, Pittsburg, Kans.; H. Wilson, superintendent, Carbon, Ind. T.

The property operated by this company consists of three slope mines near Carbon, Ind. T., on a branch of the Missouri, Kansas and Texas Railroad from McAlester, viz, mines Nos. 76, 77, and 78, and a slope mine at Doubleday, on the St. Louis and Santa Fe Railroad, known as mine No. 72.

CARBON MINE NO. 76 (FORMERLY 50).

This slope was commenced in 1895 and is now down 2,500 feet. Coal is 3¼ feet thick, with a dip of 13 degrees to the north. Air shaft is 40 feet deep and 8 by 10 feet in size. The average number of men employed is 100, and the average daily output, when running, is 200 tons. Hoisting is done by double link-motion geared engines, with 10 by 16 inch cylinders, 6-foot drum, with brake and all necessary appliances. Ventilation is supplied by two 12-foot Crawford & McCrimmon fans. Steam is generated by two 2-flue boilers, 42 inches by 20 feet, and two tubular boilers 48 inches by 16 feet. There were two accidents during the past year, one of which proved fatal.

CARBON MINE NO. 77 (FORMERLY 52).

This slope was commenced in 1896 and is now sunk about 2,400 feet. The coal is 3½ feet thick, and has a dip of 13 degrees to the north. Twelve entries and 160 rooms are in present operation. Air shaft is 20 feet deep and 8 by 10 feet in size. About 225 men are employed in this mine, and the daily average output, when running, is 350 tons. This mine is supplied with a 100-horsepower Norwalk compressor, which furnishes air to operate ten Harrison punching machines. Hoisting is done by a pair of direct-acting engines, with 12 by 20 inch

cylinders and 5-foot drum, with brake and all necessary appliances. Ventilation is supplied by a 12-foot Crawford & McCrimmon fan. Steam is generated by two cylindrical boilers and two 60-horsepower tubular boilers. There was one accident, fatal, at this mine during the past year.

CARBON MINE NO. 78 (FORMERLY 67).

This slope mine was commenced in 1899 and is now sunk 1,000 feet. Coal is $3\frac{1}{2}$ feet thick, with a dip of 18 degrees to the north. This mine produces about 200 tons of coal per working-day. A geared engine with 18 by 24 inch cylinders, with 15-foot drum, equipped with efficient brake and other appliances, is used for hoisting, and ventilation is furnished by means of a 20-foot Springfield fan. Two 75-horsepower boilers furnish necessary steam.

There were two accidents at this mine during the past year, one of which proved fatal.

DOUBLEDAY MINE NO. 72.

This slope is sunk 1,000 feet. The coal is $3\frac{1}{2}$ feet in thickness, with a dip of 10 degrees. Four entries are turned, with about 30 rooms in present operation. About 60 men are employed and the average daily output per working-day is about 150 tons. Hoisting is done by means of a 10 by 12 Lidgerwood engine with 5-foot drum, furnished with steam by a 50-horsepower boiler.

KANSAS AND TEXAS COAL COMPANY,
St. Louis, July 19, 1901.

DEAR SIR: I have yours of the 17th instant, asking for a statement of our output at the mines in the Territory for the year ending June 30, 1901, and beg leave to hand you same herewith, which I think you will find will fill the bill.

Yours truly,

Mr. L. W. BRYAN,
United States Mine Inspector, South McAlester, Ind. T.

W. P. HEATH, Secretary.

Information for mine inspector for Indian Territory for the year ending June 30, 1901.

Mine.	Number of days worked.	Number of kegs of powder.	Average number of employees.
No. 76 (formerly No. 50)	231	2,075	127
No. 77 (formerly No. 52)	240.1	3,870	218
No. 78 (formerly No. 67)	244.2	968	76
No. 72 (Doubleday)	131.4	377	39

TONNAGE.

Mine.	Lump.	Mine run.	Screenings.
No. 76	Tons.	Tons.	Tons.
No. 77	12,351	9,378	8,157
No. 78	36,151	6,598	24,655
No. 72	7,704	1,212	5,084
	9,753		155
Total	65,959	17,188	38,051

Grand total, 121,198 tons.

8. MEXICAN GULF COAL AND TRANSPORTATION COMPANY.

The property of this company during the past year passed into the hands of a receiver, Mr. Franklin Bache being appointed by the court.

The property consists of a coke plant with washer at Alderson, Ind. T., and mines and coke plant at Howe, Ind. T. At Alderson, Ind. T., this company operates 30 coke ovens, having each a capacity of 3 tons every seventy-two hours. A coke washer operated by a 60-horsepower engine with two 60-horsepower boilers cleanses the slack.

At Howe there are two shafts and a slope. The coal is 3 feet 6 inches thick, with a dip of 10 inches to the yard, dipping to the north. No. 1 shaft is 105 feet deep and slope is sunk 1,700 feet. There are 14 entries and 73 rooms in operation. Hoisting shaft is 8 by 12 feet. Equipment is a 75-horsepower Murray double engine, with 10 by 12 inch cylinders and 4 by 6 foot drum. Slope engine is 75-horsepower Murray engine. No. 2 mine has 100-horsepower double-g geared 12 by 18 Lidgerwood engine, with 5 by 8 by 10 drum. One hundred coke ovens are built and in operation, the coke manufactured being of good quality. A 50-horsepower Nagle single direct-acting engine at the coke plant and a 10-horsepower sinking engine is also in use. Steam is generated by four boilers. Nagle fan furnishes ventilation.

Product of both coal and coke is shipped over the Choctaw, Oklahoma and Gulf Railroad from Howe, Ind. T. There were no accidents reported for the past year.

Following is the scale of wages:

Weighmen	per month	\$65.00	Teamster	per month	
Dumpers	do		Carpenters	per day	
Top hands	do	1.25, 1.50	Laborer	do	1.25, 1.50
Master mechanics	per month		Pit boss	per month	90.00
Hoisting engineers	per day	2.00	Timber boss	per month	2.25
Slope engineer	per month	50.00	Firemen	per month	45.00
Tracklayers	per day	2.50	Drivers	per day	2.10
Blacksmiths	do	2.50	Helpers	do	1.75
Cagers	do	2.00	Oilers	do	1.00
Trappers	do	1.00	Mine run coal	per ton	.50
Entry work	per yard	2.00	Narrow work	per yard	1.60
Room turning	each	2.80			

DEDUCTIONS.

Smithing	per month	\$0.75	Doctor	per month	\$1.00
House rent	do	3.00, 5.00	Territory permits		.25
Powder	per keg	2.00			

MEXICAN GULF COAL AND TRANSPORTATION COMPANY,
Howe, Ind. T., July 19, 1901.

DEAR SIR: Beg to acknowledge yours of the 17th, and below beg to hand you the information requested.

Number of tons coal mined July 1, 1900, to June 30, 1901, 96,052.90.

Average number of miners, 69 per day for 271 days.

Average number of topmen, 33 per day for 365 days.

Number of kegs of powder used, 4,800.

Yours truly,

FRANKLIN BACHE, Receiver.

Mr. L. W. BRYAN,
United States Mine Inspector, South McAlester, Ind. T.

9. MILBY & DOW COAL AND MINING COMPANY.

This is a point 4 miles east of Alderson, Ind. T., where the Milby & Dow Coal Company is operating two shafts on Brushy Creek. This company is incorporated under the laws of the State of Texas. Its

officials are Andrew Dow, president; Edwin Ludlow, consulting engineer; C. S. Wingate, superintendent. Offices are at Hartshorne, Ind. T. Following is a description of these shafts in detail:

SHAFT NO. 1 (FORMERLY KNOWN AS NO. 9).

This shaft was opened in 1898, and the average thickness of coal is 3 feet, with a dip of 7 degrees to the southwest. The shaft is 221 feet deep, and the slope has been sunk for a distance of 2,200 feet, with plane 250 feet. There are 12 double entries, off of which about 125 rooms are at present in operation. Hoisting shaft is 8 by 12 feet, with third compartment 8 by 8 feet. Air shaft is 50 feet deep and 6 by 6 feet. The average number of men employed by the company is 200, and the total output of coal is 300 tons. This mine is equipped with two double Litchfield engines of 300 horsepower, slide valve, one for hauling and the other for hoisting. Diameter of cylinders is 18 inches; length of stroke, 32 inches; crank pin, 4 inches; drum, 8 inches; steam, 5 inches; exhaust, 6 inches. The drum is 8-inch, first-motion. This mine is also equipped with a Marsh pump, built in 1899, with cylinder 6 inches, which is used on top. The hoisting rope is made by the Broderick & Buscom Rope Company. Steam for the above engines in this mine is furnished by two 60-horsepower boilers, and the shaft is equipped with self-dumping cages, the tippie also having basket scales, so that the coal can be weighed separately after it has passed over the screen, or together as mine run, as they may elect. The tippie is especially well constructed and convenient for the rapid handling of coal. There is also a rotary screen attached to this plant for separating the pea coal from the slack. Ventilation is had in this mine by a 12-foot fan, connected with an air course intersecting the main slope. Good air courses and traveling ways are maintained.

Following is the scale of wages allowed in this mine:

Weightmen	per month..	\$60. 00	Teamster	per month..	
Dumpers	per day..	1. 50, 1. 75	Carpenter.....	per day..	1. 50, 2. 00, 2. 50
Top hands	per day..	1. 50	Laborer	per day..	1. 50
Master mechanics	per month..	70. 00	Pit boss	per month..	140. 00
Hoisting engineers	do.....	70. 00	Timber boss.....	per day..	2. 25
Slope engineer.....	do.....	60. 00	Boss drivers.....	do.....	2. 25
Firemen	do.....	55. 80	Track layers.....	do.....	2. 25
Blacksmiths	per day..	2. 50	Drivers	do.....	2. 10
Helper	do.....	1. 75	Cagers	do.....	2. 25
Team and man.....	do.....	2. 50	Gobbers	do.....	do.....
Stable boss	per month..	40. 00	Couplers	do.....	1. 75
Oilers	per day..	1. 00	Trappers	per day..	. 90 to 2. 00
Screened coal.....	per ton..	. 95	Mine-run coal.....	per ton..	. 65
Entry work	per yard..	2. 30	Narrow work	per yard..	2. 50
Room turning	each.....	5. 00	Machine runner.....	per day..	2. 50
Machine helper	per day..	2. 25	Loaders	per ton..	40. 50

DEDUCTIONS.

Smithing	per month..	\$0. 60	Doctor.....	per month..	\$1. 00
House rent	per month..	3. 00, 4. 00, 6. 00	Territory permits.....	do.....	. 25
Powder.....	per keg..	2. 00	Hospital, per month, 10 per cent of doctor's fees		

NO. 2 MINE.

This mine was opened in 1901. The average thickness of the coal is 3 feet 2 inches, with a dip of 10 degrees to the south. The shaft is 340 feet deep and the slope when connected will be 2,000 feet. There are 20 rooms in operation. Hoisting shaft is 8 by 12, with third compartment 8 by 8, and the air shaft is 52 feet deep and 8 by 8. The average number of men employed is 50, and the total output is 50 tons per

day. The equipment for hoisting and slope engines is the same as at No. 9, now No. 1. The scale of wages for this mine is the same as at No. 1.

Following are the rules in force in this company:

RULES OF THE MILBY & DOW COAL AND MINING COMPANY.

1. Miners or other workmen engaged in the mine shall read, and such as can not read shall have these rules read to them, and all persons engaged in the service of the company must be governed by these rules and regulations.
2. All miners must be in the mines before the 7 o'clock whistle blows in the morning. Drivers must have their mules out of the stables and all other company men must be prepared to start work when the whistle blows at 7 o'clock.
3. Miners must be careful in building lumps of coal on their cars, so as to prevent loss to both miner and company by coal falling off and causing wreck on slope.
4. That when any grievance may arise the party having the grievance must first try and adjust it with the pit boss. Should they fail to adjust it, they will refer it to the superintendent of the mines, whose decision shall be final.
5. Any employee feeling aggrieved in any respect must present his grievance to the pit boss in person, and shall not stop work by reason of any grievance while the matter is being adjusted, and all matters shall be adjusted outside of working hours.
6. That any person found with tools or powder belonging to another, or taking or using tools or powder belonging to another without the owner's consent, shall for the first offense be fined \$2.50 and for the second offense be discharged, such fines to be paid to the owners of the tools and be collected at the company's office; and any person detected in changing checks on the pit cars shall be immediately discharged.
7. All persons employed in the mine are strictly forbidden to ride up or down the slopes on the trips, and all men that may require to leave the mine while hoisting is being done must travel out the manways.
8. Miners are strictly forbidden from going into the next room for safety when firing a shot, but are required to go to a safe distance in the entry in order to be out of all danger.
9. All miners are strictly forbidden to fire a shot without giving warning of their intention to other workmen who may be near them, and must wait until all are at a safe distance.
10. All miners must run their loaded cars down their rooms to the parting, but not out on the entry. The drivers shall pull the empty cars to the face of the pitch rooms, miners to make height for mules.
11. In all the mines, unless otherwise designated, the time for firing shots shall be at 12 o'clock noon, when half-time is being worked, and 5 o'clock evening, when mine is working three-quarters or full time. Any employee detected in breaking this rule shall have his turn stopped for the first offense, and for the second offense shall be suspended one week; for the third offense will be discharged.
12. It shall be the duty of every miner to keep his room or working place well propped, in good order and repair, and to keep it perfectly safe in every way; and any miner who shall willfully or negligently or carelessly suffer his room to get out of order and repair shall, upon request, put same immediately in repair; and if he does not, the company will do the work required and charge the cost of the same to the miner.
13. All miners causing falls of rock, either by carelessness or by the reckless use of powder, blowing out the timbers or damaging brattice, will repair the same at their own expense, or, failing to do so, the company will repair and charge the cost of same to the miner.
14. When falls of rock take place in working places that have been properly timbered a reasonable amount (to be agreed upon between the pit boss and the miners) shall be paid for cleaning up the same, but where the falls occur through the blowing out of props or careless timbering no allowance will be allowed for repairing.
15. In places where roofs are dangerous and sufficient timber can not be secured, it shall be the duty of the workman or miner to notify the pit boss at once and stop work until the timber can be obtained. All timber and rails will be furnished by the company to each working place at the point of delivery of empty cars after the miner has ordered the same.
16. All drivers must take proper care of their mules, and any driver known to mistreat, abuse, or injure his mules in any way shall be discharged.

17. The fire boss (in mines where gas or fire damp is generated) or person acting in that capacity shall examine every working place in the morning before any miner or employee has entered the same, and shall mark the day of the month in some conspicuous place with chalk, which will be proof that he has examined the same; and under no circumstances must a miner or other employee enter a working place with an open lamp after being notified not to do so, or after finding a warning notice at the entrance of his working place.

18. It will be the duty of the fire boss, when he finds standing gas in any working place, to carefully dead-line the same by making one, two, or three crosses with chalk plainly on a piece of board, the number of crosses to signify the amount of gas in the working place. If the standing gas is in a room, he shall place the dead-line at the entrance to the same; if in an entry or air course, at a safe distance from the gas. The fire boss shall then notify the pit boss, who will see that the gas is carefully removed, so as to avoid accident, and any employee who shall knowingly or carelessly enter a place with an open lamp thus dead-lined shall be immediately discharged.

19. Miners employed in places where explosive gas is generated shall be furnished with a safety lamp, and if for any cause they leave their working places for even a short time, before reentering with an open lamp they shall first try the place with a safety lamp to see that no gas has collected in their absence.

20. No miner who has left the employ of the company, or who has been discharged from the same, shall be entitled to any pay or money due him until he shall have put his room in perfect working order, as required by the company. All miners leaving said employment will be required to procure the certificate of the pit boss that they have complied with the rule aforesaid before final payment or settlement shall be made.

21. If any miner shall leave an empty pit car in his room over night and the car should be lost or destroyed by the caving in of the room or the firing of a shot, or through any other carelessness, the full value of the pit car shall be charged to him.

22. Any miner or employee who shall intentionally damage any signal bell or wire, safety lamp, brattice airway or door, or open a door and not close it again, or do anything by which the safety of the men in the mine may be endangered, shall be promptly discharged.

23. In the event of death by accident in the mines employees shall be allowed one-half day for the funeral. In all other cases, any employee desiring to attend the funeral of a fellow-employee or a member of his family shall be at liberty to absent himself for that purpose after notifying the pit boss, but all other men shall be at work as usual.

24. No person shall be allowed to interfere with the employer's just right of employing, retaining, or discharging any person or persons whom the superintendent or mine boss having charge of the mine may consider proper, or to interfere, with threats or otherwise, with the right of any employee to work in any way or upon any terms and with whom he shall think proper and best.

25. All powder will be delivered at the top of the shaft after being ordered by the miner, and will be sent down by the company. The rope rider will be instructed to deliver it at the proper entries, but in no case will the company be responsible for powder lost after it has been delivered at the entry marked on the powder keg.

26. Miners in making up cartridges or charges of powder must put their lamps on the outside of their box and not less than 5 feet therefrom. Any miner found making charges or cartridges of powder with his lamp burning on his head shall for the first offense be suspended for three days, and for the second offense shall be discharged.

27. All miners must carefully remove all slate from their coal while loading it into their cars. Any miner sending out slate in his coal cars shall for the first offense be docked 500 pounds, for the second offense 1,000 pounds, and for the third be suspended one week.

28. The whistle will blow at 7 o'clock in the evening when the colliery will not work on the following day.

29. All employees who desire to absent themselves from work must notify the foreman under whom they work the day before. Anyone absent without permission will for the first offense be suspended three days, and for the second offense be suspended one week, and for the third offense shall be discharged. All miners absenting themselves three consecutive days without permission will be considered as having left the employ of the company, and their places will be assigned to others.

30. All miners are strictly forbidden from leaving their working places to enter any vacant or unoccupied place without permission of the foreman. Any violation of this rule will be followed by an immediate discharge.

31. Anyone detected violating the above rules for which no penalty is named will for the first offense be suspended for three days, for the second offense will be suspended for one week, and for the third offense will be discharged.

32. Any tenant of the company will be charged for any damage done to the house he occupies, and upon leaving the service, whether voluntarily or by discharge, will not be entitled to receive any part of the wages due him until he shall have vacated the premises occupied by him and presented the keys of the same at the office, and the house has been examined and the amount of damages deducted from his wages.

33. No meeting shall be held during the working hours of a hoisting day. Entering the employment of the company is understood to be an acceptance of the foregoing rules.

EDWIN LUDLOW,
Superintendent of Mines.

10. McALESTER COAL MINING COMPANY.

The property of this company is situated at Buck, Ind. T., on a branch of the Missouri, Kansas and Texas Railway, about 4 miles from McAlester, Ind. T. This company operates three slope mines and one shaft, as per the following description:

SLOPE MINE NO. 2.

This slope was opened in 1896, and is sunk 2,000 feet, the coal being 4 feet thick, with a dip of 9 degrees to the west. There are three working entries and about 22 rooms in present operation. Hoisting is done by means of a Fort Scott 90-horsepower engine, with 18 by 24 cylinders, with 5-foot drum. Ventilation is had by Erie fan. About 80 men are employed in this mine.

SLOPE MINE NO. 3.

This slope was sunk in 1901, and is now opened to a distance of 300 feet. The average thickness of the coal is 4 feet, and average number of men employed 14. This slope is equipped with a Ledgerwood engine of 24 horsepower, with 6 by 10 cylinders and 30 by 4 drum. Ventilation is sufficient.

SLOPE MINE NO. 4.

This slope was sunk in 1900, and is now 400 feet in length. There are 2 entries and 2 rooms in operation. The slope employs an average of 10 men. Equipment consists of one Fairbanks, Morse & Co. engine of 20 horsepower, with 10 by 12 cylinders and 3 by 4 drum.

SHAFT NO. 12

This shaft was sunk in 1900 and is 119 feet deep. The coal is 4 feet thick, with a dip of 9 degrees to the west. There are 7 entries and 40 rooms now in operation. Hoisting shaft is 7 by 12, with third compartment 7 by 3½. Air shaft is 119 feet deep and is 6 by 10 feet. There are about 100 men employed. This shaft is equipped with one Litchfield 90-horsepower reciprocating double-type engine, with 16 by 30 cylinders and 6 by 7 drum. It is direct acting.

The following letter, received from this company, explains itself:

McALESTER COAL MINING COMPANY,
Buck, Ind. T., July 24, 1901.

DEAR SIR: Herewith information asked for in your letter of the 16th.

Total output of coal from each mine for year ending June 30, 1901.

Date.	Mine.			
	No. 2.	No. 3.	No. 4.	No. 12.
1900.				
July.....	Tons. 2,288	Tons. 544	Tons. 400	Tons. 325
August.....	3,281	58	559	385
September.....	1,255	.....	517	1,461
October.....	2,040	.....	761	1,477
November.....	3,031	.....	1,095	2,285
December.....	3,069	.....	1,000	2,650
1901.				
January.....	3,078	.....	1,030	3,755
February.....	2,994	.....	1,112	4,058
March.....	3,096	.....	777	3,421
April.....	3,042	.....	640	3,472
May.....	3,241	.....	621	4,502
June.....	2,793	168	314	5,046
Total.....	33,208	670	8,826	32,836

Total tonnage from all mines for the year.....	75,540
Total number of kegs of powder sold during the year.....	4,800
Average number of days worked per month.....	24
Average number of men employed.....	250

Yours, truly,

McALESTER COAL MINING CO.,
Per J. W. MACKIE.

L. W. BRYAN,
United States Mine Inspector, South McAlester, Ind. T.

MINE NO. 2.

This is a slope mine about 2,100 feet in length. It was opened some five years ago by Montague & Phillips. It was then leased by them to the Kansas and Texas Coal Company, who operated it for some time, when the lease expired and it again became the property of Montague & Phillips, who last year sold it to the McAlester Coal Mining Company, of which company A. B. Donaldson is president.

This, in connection with 50 coke ovens which are now being constructed and with two other slopes, constitutes the property of this company.

Scale of wages.

Weighmen.....per month..	\$50.00	Dumpers.....per day..	\$1.00
Carpenter.....per day..	2.50	Top hands.....do..	1.60
Laborer.....do..	1.50	Master mechanics.....per month..	100.00
Pit boss.....per month..	90.00	Hoisting engineers.....do..	75.00
Timber boss.....per day..	2.25	Slope engineer.....do..	75.00
Boss drivers.....do..	2.50	Firemen.....do..	60.00
Track layers.....do..	2.25	Blacksmiths.....do..	60.00
Drivers.....do..	2.10	Helper.....per day..	1.50
Cagers.....do..	2.25	Trappers.....do..	1.00
Mine run coal.....per ton..	.60	Entry work.....per yard..	2.00
Narrow work.....per yard..	1.60	Room turning.....each..	5.00

DEDUCTIONS.

Smithing.....per month..	\$0.60	Doctor.....per month..	\$1.00
House rent.....do..	4.00	Territory permits.....do..	.20
Powder.....per keg..	2.00		

11. THE DEVLIN-WEAR COAL COMPANY.

This company operates near Poteau, Ind. T., near which point and in Cavanal Mountain are two veins of coal which have been uplifted from the main basin. A slope is driven into the side of the mountain, full description of which here follows. We also append letters.

This mine was opened in 1900, and the average thickness of the coal is 4 feet, with a dip of 4 inches per yard in a westerly direction. The slope has been sunk 700 feet, and there are two planes of 700 feet each. Four entries have been opened, and 29 rooms are now in operation. The average number of men employed is 135. Equipment is one Lidgerwood engine, geared, which is located 100 feet from mouth of slope. This engine is 72 horsepower, double, with 12 by 12 inch cylinders and with drum 4½ by 7 feet.

Following is a letter from Mr. John J. O'Brien, superintendent:

THE DEVLIN-WEAR COAL COMPANY,
Poteau, Ind. T., July 31, 1901.

DEAR SIR: In compliance with your request of recent date, we herewith give you the production of our mines for the past year, and such other information as you desired.

Total output for the year.....	tons..	67,696
Total number of days worked.....		281
Average number of men employed.....		142
Number of kegs of powder.....		3,140

Of the total production of the coal given above, 20,620 tons were produced from our No. 3 mine and 47,076 tons from our No. 5 mine.

For your information we beg to state that our No. 3 mine has not been in active operation since last November; but we have pushed all development work on our new No. 5 mine, which is now in a position to produce 400 tons daily. Of this mine we expect most satisfactory results, as it will be connected with No. 3 shaft, and the entire coal haulage will come from No. 5 slope.

A new hoisting engine and a good fan is now being put up, as up to this time ventilation has been secured through two furnaces.

The work at the mines for the past year has been very steady, and the men are making good wages.

Respectfully,

THE DEVLIN-WEAR COAL COMPANY,
By JNO. J. O'BRIEN, Superintendent.

L. W. BRYAN,
United States Mine Inspector, South McAlester, Ind. T.

Following is the scale of wages in force in this mine:

Weighmen.....per month..	\$50.00	Dumpers.....per day..	\$1.50
Carpenter.....per day..	2.12½	Top hands.....do..	1.50
Laborer.....do..	1.50	Pit boss.....per month..	75.00
Hoisting engineers.....per month..	60.00	Timber boss.....per day..	2.12½
Firemen.....per day..	1.80	Track layers.....do..	2.25
Blacksmiths.....do..	2.12½	Drivers.....do..	2.25
Helper.....do..	1.50	Team and man.....do..	2.50
Stable boss.....per month..	40.00	Oilers.....do..	1.00
Mine run coal.....per ton..	.60	Narrow work.....per yard..	1.60
Entry work.....per yard..	2.10	Room turning.....each..	5.00

DEDUCTIONS.

Smithing.....per month..	\$0.75	Doctor.....per month..	\$1.00
House rent.....do..	4.00 to 600	Territory permits.....do..	.25
Powder.....per keg..	2.00		

12. PERRY BROTHERS.

The property of this firm consists of four slope mines, commenced, respectively, in 1896, 1899, 1900, and 1901. They are located at Coal-gate, Ind. T.

SLOPE NO. 1.

The coal in Slope No. 1 has an average thickness of 4 feet, which dips 8 inches to the west per yard. The slope has been sunk 1,400 feet, and there are 6 entries and 38 rooms now in operation. Air shaft is 38 feet deep by 5 by 5 feet. There are 85 men employed, and output averages 200 tons. Equipment consists of one South St. Louis Foundry engine of 85 horsepower, double cylinders 12 by 16 and drum 48 by 40 inches.

SLOPE NO. 2.

Average thickness of coal, 4 feet, with 7-inch dip to west. This slope has been sunk for 1,000 feet, and has 3 entries and 22 rooms now in operation. Air shaft is 29 feet deep and is 5 by 5 feet. There are 60 men employed in this slope, and the average output is 100 tons. Equipment consists of one Ottumwa Iron Works engine of 35 horsepower, with 10 by 12 cylinders and 30 by 25 drum.

SLOPE NO. 3.

Average thickness of coal is 4 feet, which has a dip of 8 inches to the west. This slope employs 76 men and is sunk for 700 feet, and has 4 entries and 45 rooms now in operation. Total output averages 200 tons. There is an air shaft 35 feet deep and 5 by 5 feet. The slope is equipped for hoisting with one Sanford 30-horsepower engine, with cylinders 8 by 12 and drum 30 by 30.

SLOPE NO. 4.

The average thickness of the coal in this slope is 4 feet, with a westerly dip of 8 inches. The slope has been sunk for 300 feet, and there are now in operation 2 entries and 7 rooms. Air shaft is 42 feet deep and is 5 by 5 feet. Forty men are employed, and the total output is 100 tons. Equipment for hoisting is composed of one Otis engine of 35 horsepower, with cylinders 8 by 12 and drum 36 by 40.

Following is given a statement received from this firm as to monthly total tonnage, etc.:

Month.	Mine.			Pits, etc.
	No. 1.	No. 2.	No. 3.	
1900.				
July	Tons. 2,130	Tons. 891	Tons. 85	Tons. 1,300
August	1,885	1,438	141	1,200
September	1,408	1,025	167	419
October	1,378	970	280	666
November	1,625	1,224	590	990
December	2,249	1,356	603	540
1901.				
January	2,788	1,730	811	.....
February	3,084	1,790	1,403	.....
March	2,712	1,409	2,100	.....
April	3,632	1,318	2,610	.....
May	3,417	1,723	3,280	.....
June	2,837	1,840	3,415	.....
Total	29,145	16,714	15,485	5,115

Grand total 66,459 tons.

We now employ 300 men.
Have averaged 5 days per week last 12 months.
Used 4,100 kegs powder.
Have just completed railroad track to our No. 4 mine.

PERRY BROS.

JULY 20, 1901.

Following is the scale of wages:

Weighman	per day..	\$2.00	Dumpers	per day..	\$1.80
Carpenter	do....	2.50	Top hands	do....	1.60
Laborer	do....	1.60	Pit boss	per month..	85.00
Hoisting engineers	per month..	65.00	Boss drivers	per day..	2.35
Track layers	per day..	2.25	Blacksmiths	per month..	70.00
Drivers	do....	2.25	Helpers	per day..	50.00
Cagers	do....	2.25	Team and man	do....	45.00
Trappers	do....	1.00	Stable boss	per month..	60
Screened coal	per ton..	.80	Mine-run coal	per ton..	.60
Entry work	per yard..	2.00	Narrow work	per yard..	1.60
Room turning	each..	5.00			

DEDUCTIONS.

Smithing	per day..	\$0.04	Territory permits	\$0.20	
House rent	per month..	4.50	Powder	per keg..	1.75

13. OLA COAL AND MINING COMPANY.

The management of this company is under the direction of Mr. James Elliott, and the company's offices are at Ola, Ind. T. The property consists of several slopes as hereinafter described:

SLOPE NO. 1.

This slope is sunk on the lower vein and is about 700 feet long. The coal is about 5½ feet thick with a dip of 27° to the north. The Slope was sunk in 1897. There are 7 entries of which 40 rooms are now in operation. An air shaft 115 feet deep, 6 by 8 feet, affords excellent ventilation. This slope is equipped with a 60-horsepower single engine, with 12 by 20 cylinders and 5-foot by 5-foot 4-inch drum. It is pinion geared. The average number of men working in the slope is 100. One 12-foot fan furnishes ventilation.

No. 1½ has a Woermer & Son (New York) engine of 10 horsepower, single, with 7 by 11 cylinders and 1-foot 6-inch by 1-foot 6-inch drum. This is run as an auxiliary of No. 1.

SLOPE NO. 2.

This slope was commenced in 1898 and is sunk 600 feet. The coal here mined has an average thickness of 4 feet, with a dip of 27° to the north. There are 4 entries and 16 rooms now in operation. About 50 men are employed. There is an air shaft 17 feet deep and 5 by 5 feet. This slope is equipped with a Camp & Lane engine of 55 horsepower, with 10 by 20 cylinder and 4-foot 6-inch by 4-foot 6-inch drum. Pinion geared. Ventilation is ample.

SLOPE NO. 3.

This slope was also commenced in 1898 and has been sunk 350 feet. The coal has an average thickness of 5½ feet with a dip of 27° to the north. There are 4 entries and 16 rooms now in operation. Air shaft is 12 by 5 by 6 feet. An average of 50 men are employed. This slope is equipped with a Schoellhorn & Albrecht engine of 55 horsepower, with

10 by 20 cylinders and 3-foot 2-inch by 4-foot drum. Pinion geared. Ventilation is ample and sufficient.

The total output of coal of these slopes was 66,000 tons.

The following scale of wages is paid by this company:

Weighmen..... per month..	\$45.00	Dumpers..... per day..	\$1.50
Carpenter..... per day..	2.00	Top hands..... do....	1.50
Laborer..... do....	1.50	Master mechanics..... per month..	60.00
Pit boss..... per month..	90.00	Hoisting engineers..... do....	50.00
Timber boss..... do....	56.25	Slope engineers..... do....	45.00
Firemen..... do....	45.00	Track layers..... per day..	2.25
Blacksmiths..... do....	50.00	Drivers..... do....	2.10
Helper..... per day..	1.75	Cagers..... do....	2.25
Team and man..... do....	2.50	Oilers..... do....	.75
Trappers..... do....	.75	Mine-run coal..... per ton..	.60
Entry work..... per yard..	1.60	Narrow work..... per yard....	1.60
Room turning..... each..	5.00		

DEDUCTIONS.

Smithing..... per month..	\$0.75	Doctor..... per month..	\$1.00
House rent..... per month..	4.00 to 6.00	Territory permits..... do....	.25
Powder..... per keg..	2.25		

14. J. B. McDOUGALL.

This party is operating a mine near Coalgate, Ind. T., the same having been sunk in 1895. The slope has been sunk 1,900 feet, and has 6 entries and 80 rooms at present in operation. The coal is 3 feet 10 inches thick, with a dip of 5 inches to the yard to the northwest. Ventilation is plentifully supplied by an 80-foot deep air shaft, which is 6 by 8 feet. Equipment for hoisting is furnished by an Ottumwa Iron Works Company engine (patent friction drum hoisting), double, with cylinders 12 by 12 inches and drum 54 inches. Friction diamond cogs gearing. This engine is of 80 horsepower. There is also one Atlas engine of 23 horsepower for fan.

The following report has been submitted by this party:

Statement of coal mined at J. B. McDougall coal mine, Coalgate, Ind. T., from July 1, 1900, to July 1, 1901.

1900.		1901.	
	Tons.		Tons.
July.....	3,744	January.....	4,557
August.....	3,462	February.....	3,824
September.....	3,959	March.....	5,963
October.....	3,065	April.....	6,046
November.....	4,974	May.....	6,369
December.....	3,225	June.....	7,218
		Total.....	56,406

Kegs powder used.....	2,256
Average days worked.....	23
Men employed.....	80

Scale of wages.

Weighmen..... per month..	\$65.00	Helper..... per day..	\$1.50
Dumpers..... per day..	1.60	Team and man..... do....	2.50
Top hands..... do....	1.60	Stable boss..... per month..	40.00
Master mechanics..... per month..	80.00	Carpenter..... per day..	2.50
Slope engineer..... do....	65.00	Laborer..... do....	1.60
Firemen..... per day..	1.60	Pit boss..... per month..	110.00
Blacksmiths..... do....	2.25	Timber boss..... per day..	2.25
Drivers..... do....	2.25	Boss driver..... do....	2.25
Oilers..... do....	1.00	Track layers..... do....	2.25
Trappers..... do....	1.00	Screened coal..... per ton..	2.60
Mine-run coal..... per ton..	.60	Entry work..... per yard..	5.00
Narrow work..... per yard..	1.60	Room turning..... each....	5.00

DEDUCTIONS.

Smithing..... per day..	\$0.04	Doctor, per month (voluntary).....	\$0.20
Powder..... per keg..	1.75	Territory permits..... per month..	

15. HAILEY COAL AND MINING COMPANY.

This property consists of a slope and shaft as per the following description:

HAILEY SLOPE.

This slope was sunk in the year 1898. The coal is 4½ feet thick, with a dip of 8 inches to the yard toward the northeast. The slope is sunk to a connection with the shaft. The air shaft is 40 feet deep and 6 feet square. The average daily output is 150 tons. Ventilation is had by means of a furnace. For hoisting, a 30-horsepower Griffith & Wedge geared double engine is used, with 7 by 10 inch cylinders, and 3-foot drum fitted with brake and other necessary appliances.

HAILEY SHAFT.

This shaft was sunk in 1900. It is 315 feet deep. The coal is 4½ feet thick, with a dip of 8 inches to the yard in a northeast direction. Hoisting shaft, 5½ by 7 feet, 315 feet deep, and is ventilated by third compartment. An 80-horsepower Litchfield double engine, with cylinders 18 by 32 inches, is used, and is furnished with steam by means of an 80-horsepower boiler. Ventilation is had by means of fan, and the slope furnishes means of escape. This shaft will produce 250 tons daily.

16. THE SAMPLES COAL AND MINING COMPANY.

This property, located at McAlester, Ind. T., consists of a slope opened in the year 1897. The coal has an average thickness of about 4 feet and dips 10 degrees to the south. The slope is sunk 1,000 feet, with 6 entries and 50 rooms now in operation. The average number of men employed is 70. Ventilation is had by means of a 12-foot Alton fan. A J. A. Mundy 80-horsepower double-friction engine, with 10 by 16 inch cylinders, with a 48-inch drum and all necessary appliances, is used for hoisting, and the engine is furnished with steam by two 12-foot tubular boilers. The requirements of the law are complied with.

Following is the scale of wages:

Weighmen..... per day..	\$2.00	Dumpers..... per day..	\$1.75
Top hands..... do....	1.50	Pit boss..... do....	2.50
Hoisting engineers..... do....	2.50	Firemen..... per month..	30.00
Track layers..... do....	2.25	Blacksmiths..... per day..	2.50
Drivers..... do....	2.25	Helpers..... do....	2.00
Cagers..... do....	2.25	Oilers..... do....	1.00
Mine-run coal..... per ton..	.65	Entry work..... per yard..	2.00
Narrow work..... per yard..	1.60	Room turning..... each..	5.00

DEDUCTIONS.

Smithing..... per month..	\$0.50	Doctor..... per month..	\$1.00
House rent..... do....	4.00	Territory permits..... do....	.25
Powder..... per keg..	2.00	Hospital..... do....	.25

The following letter in regard to The Samples Coal and Mining Company is self-explanatory:

THE SAMPLES COAL AND MINING COMPANY,
McAlester, Ind. T., July 25, 1901.

DEAR SIR: Replying to yours of recent date, beg to report as follows:

Average number of diggers daily.....	38
Average total wages daily.....	\$3.25
Average number kegs to diggers daily.....	4
Number of days in operation.....	263 1/2
Total number tons per month hoisted.....	3,253.2
Output year ending June 30, 1901.....	39,026
Average number day men.....	21
Average wages day men.....	\$2.00
Average number days worked.....	263 1/2

Should you desire any further information will be pleased to give it.

Yours, truly,

THE SAMPLES C. & M. Co.
THICKSTUN.

HON. L. W. BRYAN,
United States Mine Inspector, South McAlester, Ind. T.

17. OZARK COAL AND RAILWAY COMPANY.

The officials of this company are B. F. Hobart, St. Louis, president; C. W. Dawley, Dallas, Tex., treasurer; S. Guerrier, South McAlester, Ind. T., secretary; R. R. Evans, superintendent. The offices are at Panama, Ind. T.

This company operates a slope mine which has been sunk 1,000 feet and was opened in 1898. The average thickness of the coal is 3 feet 8 inches, with a dip of 8 degrees to the south and southeast. There are 8 entries, of which 42 rooms are in operation. The air shaft is 60 feet deep and is 4 by 6 feet. An average of about 65 men are employed in this mine.

Mine is equipped with a pair of 12 by 14 inch Ottumwa double-link engines for hoisting, made by Ottumwa Iron Works, Ottumwa, Iowa. They have a 5-foot drum and all necessary appliances. Steam is furnished by two 50-horsepower boilers. The mine is ventilated by air shaft above described.

This company has constructed a railroad from Panama station, on the Kansas City Southern Railway, about 1 mile in length, which gives it excellent shipping facilities with that railroad.

Following is the scale of wages paid by the company:

Weighmen.....per month..	\$60.00	Top hands.....per day..	\$1.50
Pit boss.....do.....	85.00	Hoisting engineers.....per month..	60.00
Firemen.....do.....	45.00	Track layers.....per day..	2.25
Blacksmiths.....do.....	45.00	Drivers.....do.....	2.25
Stable boss.....do.....	10.00	Couplers.....do.....	2.25
Mine-run coal.....per ton..	.60	Entry work.....per yard..	2.00
Narrow work.....per yard..	1.60	Room turning.....each..	4.00
Teamster.....per month..	30.00		

DEDUCTIONS.

Smithing.....per month..	\$0.75	Doctor.....per month..	\$1.00
House rent.....do.....	\$4.00 to 6.00	Territory permits.....do.....	.25
Powder.....per keg..	2.00		

18. D. EDWARDS & SON.

The property now being operated by the above company consists of three slope mines, situated at McAlester and Kiowa, Ind. T.

Following is given a letter, with statements attached, in reference to the above mines, and which are self-explanatory:

D. EDWARDS & SON,
McAlester, Ind. T., July 24, 1901.

DEAR SIR: As requested in yours of July 16, I herewith send you a statement of the output and average number of men employed by D. Edwards & Son at McAlester and Kiowa, Ind. T., mines for the twelve months ending June 30, 1901.

Yours, truly,

D. EDWARDS.

Mr. L. W. BRYAN,
South McAlester, Ind. T.

Statement of Kiowa Mines Nos. 1 and 2 and McAlester No. 3 from July 1, 1900, to June 30, 1901.

Month.	Mines.	
	Nos. 1 and 2.	No. 3.
1900.		
July.....	Tons. 328	Tons. 776
August.....	433	835
September.....	227	1,174
October.....	244	1,489
November.....	528	1,704
December.....	538	1,669
1901.		
January.....	509	2,166
February.....	368	1,835
March.....	438	1,961
April.....	408	2,600
May.....	434	2,534
June.....	413	2,841
Total.....	4,868	21,584

Grand total, 26,452 tons.

Average number of employees at Mines Nos. 1 and 2.....	10
Average number of employees at Mine No. 3.....	30

The equipment for hoisting purposes at Mine No. 3 consists of a 25-horsepower horizontal single engine, with 7 by 12 inch cylinders and 44 by 60-inch drum. No. 3 mine was opened in 1894, and the coal averages 4 feet in thickness and has a dip of 15 degrees in a south-easterly direction. Ventilation is supplied throughout, and the air shaft is 14 feet deep and is 4 by 4 feet.

Following is the scale of wages paid in this company's workings:

Weighmen.....per month..	\$50.00	Dumpers.....per day..	\$2.00
Carpenter.....per day..	2.25	Top hands.....do.....	1.50
Pit boss.....per month..	70.00	Slope engineer.....do.....	2.00
Track layers.....per day..	2.25	Blacksmiths.....do.....	2.00
Drivers.....do.....	2.25	Screened coal.....per ton..	.85
Mine-run coal.....per ton..	.65	Entry work.....per yard..	1.65
Narrow work.....per yard..	1.65	Room turning.....each..	5.00

DEDUCTIONS.

Smithing.....per month..	\$0.50	Doctor.....per month..	\$1.00
House rent.....do.....	4.00	Territory permits.....do.....	.25
Powder.....per keg..	2.00		

19. CHOCTAW COAL AND MINING COMPANY.

The above company carries on extensive operations at Sutter, Ind. T., and is composed of the following gentlemen: D. H. Hays, president; Charles Sutter, vice-president; W. C. Fordyce, secretary and treasurer, and W. A. Butterfield, assistant secretary. Their mine was opened in 1899, and they have now in operation 6 entries and 55 rooms. The coal mined has an average thickness of 4 feet 6 inches, with a $3\frac{1}{2}$ -inch dip to the south and west. The slope has been sunk 1,050 feet. Ventilation is excellent, there being an air shaft 34 feet deep and 6 feet square. The average number of men employed during the past year was 91, and the total output 24,936 tons. Equipment for hoisting consists of a Griffith & Wedge 120-horsepower double engine, with 12 by 18 inch cylinders and $5\frac{1}{2}$ by 7 foot drum.

This company made report to the inspector for the year just past in the following letter, which is self-explanatory:

CHOCTAW COAL AND MINING COMPANY,
Sutter, Ind. T., July 24, 1901.

DEAR SIR: In compliance with your request of the 16th instant we take pleasure in handing you herewith data in relation to the mine of this company known as Mine No. 1.

As you are no doubt aware, little or no work was done in our Mine No. 2 prior to July 1, 1901, saving in the way of equipment—viz, tippie building, putting in necessary machinery, and erecting buildings—consequently no report is made concerning it.

Our Mine No. 1 was closed down from July 1 to October 1, 1900, which will account for the absence of data during that period.

Month.	Coal mined.	Number of men employed.	Number of days worked.	Powder used.
1900.				
October	<i>Tons.</i> 1,193	59	14	<i>Kegs.</i> 59
November	2,515	80	24	112
December	3,308	90	23	123
1901.				
January	3,463	93	25	144
February	3,022	94	23	130
March	1,881	95	17	101
April	3,519	100	24	167
May	3,758	101	27	200
June	2,277	104	15	137
Total	24,936	816	192	1,173

Trusting that the above information will meet your desires, we remain,

CHOCTAW COAL AND MINING COMPANY,
By D. H. HAYS, *President.*

Mr. L. W. BRYAN,
United States Mine Inspector, South McAlester, Ind. T.

Scale of wages.

Weighmen	per month..	\$50.00	Timber boss	per day..	\$2.25
Dumpers	per day..	1.50	Track layers	do...	2.124
Top hands	do...	1.50	Drivers	do...	2.124
Hoisting engineers	per month..	60.00	Hand-picked lump	per ton..	.90
Firemen	do...	45.00	Mine run	do...	.60
Blacksmiths	do...	60.00	Entry work	per yard..	2.00
Helper	per day..	1.50	Narrow work	do...	1.00
Carpenter	do...	2.25	Room turning	each..	5.00
Pit boss	per month..	80.00			

DEDUCTIONS.

Smithing.....	per day..	\$0.03	Doctor.....	per month..	\$1.00
House rent.....	per month..	5.00	Territory permits.....	do.....	.25
Powder.....	per keg..	2.00			

20. R. SARLLS.

This party is operating several small slopes on the celebrated Mc-Alester vein of coal, but confines his operations to horse and hand power. His operations are near Savanna, Ind. T., and the output is shipped over the Missouri, Kansas and Texas Railroad. During the past year 16,667 tons of coal have been mined from these slopes, and an average number of about 100 men were given steady employment. About 500 kegs of powder were used. Improvements are contemplated, and wages paid vary little from those of other companies operating mines in this section.

21. THE TURKEY CREEK COAL COMPANY.

This company is under the management of C. W. Turner, president; J. E. Evans, vice-president; T. W. Clelland, manager, and Jos. Hughes, superintendent. The general offices are at Hughes, Ind. T. One mine is operated, and was opened in 1900. The coal is 2 feet 10 inches thick, with a 20 degrees dip to the north. The slope has been sunk 350 feet, and 3 entries and 8 rooms are now in operation. An air shaft 20 feet deep, 8 by 10 feet, supplies ample ventilation. Twenty-five men are employed, and the total output for the past year was 9,400.55 tons. There were 360 kegs of powder issued and used. Equipment for hoisting consists of one Ketcham 12-horsepower single engine, with 7 by 14-inch cylinders and 3½-foot drum. The output of this company is shipped over a short spur which is built from the company's works, and conveys the coal to the main line of the Choctaw, Oklahoma and Gulf Railroad. The company has good facilities and expects to greatly increase their output.

Scale of wages.

Top hands.....	per day..	\$1.50	Laborer.....	per day..	\$1.50
Slope engineer.....	do...	1.75	Pit boss.....	per month..	80.00
Blacksmiths.....	per month..	75.00	Track layers.....	per day..	2.25
Helper.....	per day..	2.00	Drivers.....	do.....	2.10
Team and man.....	do.....	2.50	Cagers.....	do.....	2.10
Stable boss.....	per month..	35.00	Entry work.....	per yard..	2.50
Teamster.....	do.....	35.00	Narrow work.....	do.....	1.60
Carpenter.....	per day..	2.75	Room turning.....	each..	5.00

DEDUCTIONS.

Powder.....	per keg..	\$2.25
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22. WILLIAM BUSBY, BAKER MINES.

This property was commenced in 1900, and consists of a slope which has been sunk 550 feet. There are two entries in operation. The coal has an average thickness of 4 feet, with a dip of 15 or 20 inches to the yard in a southwest direction. Air shaft is 30 feet deep and 6 by 6 feet, and the total output for the past year was 9,119 tons. Equipment for hoisting consists of a Riverside Iron Works friction double engine, with 10 by 12 inch cylinders and 4½ by 4 foot drum. There is also a shaker screen engine and a fan engine used.



VIEW OF DRIFT MINE AT TURKEY CREEK, INDIAN TERRITORY.

Scale of wages.

Weighmen	per day..	\$2.00	Track layers	per day..	\$2.25
Top hands	do.....	1.50	Drivers	do.....	2.25
Slope engineer	do.....	2.00	Couplers	do.....	1.50
Firemen	do.....	2.00	Mine-run coal	per ton..	1.60
Teamster	do.....	1.50	Entry work	per yard..	1.60
Carpenter	do.....	2.00	Narrow work	do.....	1.60
Laborer	do.....	1.50	Room turning	each..	5.00

DEDUCTIONS.

Smithing	per month..		Doctor	per month..	\$1.00
House rent	do.....	\$2.00	Territory permits	do.....	.25
Powder	per keg..	2.00			

23. ST. LOUIS-GALVESTON COAL AND MINING COMPANY.

The above company has its main office in the Holland Building, St. Louis, Mo. The officers are B. E. Black, secretary, and Mr. Adams, manager. Mine offices are at Atoka, Ind. T. The company operates on a branch of the Missouri, Kansas and Texas Railway which connects with the Coalgate branch of the same railway, the first-named branch leaving the Coalgate branch or line between Atoka and Lehigh and running about 3 miles west. A slope has been sunk several hundred feet, and the average thickness of the coal is about 4 feet, with a dip of 3 inches to the yard in a northwest direction. An air shaft 5 feet square supplies necessary ventilation. Nineteen men are employed.

The following letter gives in detail the present condition of the operations of this company:

ST. LOUIS-GALVESTON COAL AND MINING COMPANY,
St. Louis, Mo., July 29, 1901.

DEAR SIR: Complying with your letter of July 16, we send you herewith a statement of tons of coal mined at our mine near Atoka, Ind. T., for the twelve months ending June 30, 1901, together with the number of men employed and the average number of days worked; also an approximate number of kegs of powder used.

Yours, very truly,

ST. LOUIS-GALVESTON COAL AND MINING Co.,
B. E. BLACK, Secretary.

L. W. BRYAN, Esq.,
United States Mine Inspector, South McAlester, Ind. T.

Output of coal from the St. Louis-Galveston Coal and Mining Company mine near Atoka, Ind. T., for the year ending June 30, 1901.

Number of tons mined	8,550
Number of men employed	19
Average number of days worked	180
Approximate number of kegs of powder used	400

Scale of wages.—Those at other mines in this section prevail.

24. M. PERONA.

M. Perona has been operating a small slope at Savanna for the past four years. The slope is sunk 175 feet. The coal is 3 feet 8 inches in thickness, with a dip of 20 inches per yard to the northwest. An air shaft 20 feet deep and 5 by 6 feet supplies ventilation. Hoisting is done by horsepower, one gin of self-make, 5½ feet in diameter, being

used. Ten men are employed, and the total output for the past year was 3,307 tons. Average number of days worked was 148, and 151 kegs of powder were issued and consumed.

Scale of wages.

Hoisting engineer	per ton..	\$0.10	Mine-run coal	per ton..	\$0.60
Team and man	per day..	2.50	Entry work	per yard..	2.00
Teamster	per ton..	.25	Narrow work	do.....	1.60
Laborer	per day..	2.25	Room turning	each..	3.00
Drivers and pushers	do.....	2.25			

DEDUCTIONS.

House rent	per month..	\$3.00	Territory permits	per month..	\$0.22
Powder	per keg..	2.00			

25. CASTON COAL COMPANY.

The production and operation of this company are very small. They are located at a place called Victor, Ind. T., and the company is under the management of T. J. Phillips. He reports that the company has not done much during the past year, but that their total output for the year was 3,224 tons. About 40 kegs of powder per month was consumed for the 12 months, and from 10 to 15 men were employed, who worked from 4 to 5 days to the week.

26. McALESTER AND GALVESTON COAL MINING COMPANY.

This company operates a slope mine, opened in 1901, at McAlester, Ind. T. The coal is 2 feet 7 inches thick, with a dip of 27 degrees to the southeast. The slope has been sunk 275 feet, and there are 3 entries and 8 rooms in present operation. Ventilation is supplied by an air shaft 29 feet deep, 5 by 6 feet. Equipment consists of one Allison & Son 18-horsepower engine, double, with cylinders 7 by 9, and 26 by 28 inch drum.

The following letter is a report received from these people:

McALESTER AND GALVESTON COAL MINING COMPANY,
McAlester, Ind. T., July 18, 1901.

SIR: I have the pleasure to submit a statement per your request of the 16th. The company is named as headed above. Nicolas Bohn, president; C. W. Turner, vice-president; M. S. Ugy, secretary and treasurer. Mines are located in North McAlester, on Missouri, Kansas and Texas track, on "bottom vein" of this field (McAlester), one slope 300 feet deep, entry east 250 feet, entry west 300 feet. We have found in our development so far a pretty difficult proposition, and expensive on account of faults in the vein and the pinching of the coal strata. The average of the pit up to date is 2 feet 7 inches at the outside.

Our coal in the east shows up favorably at this date, and has increased to 3 inches of clear coal. On the west we have some 50 feet farther to go before we expect a change for the better, as the fractures are on a large scale yet with a hard sandstone top and from 4 to 5 feet of bony bottom, with small strata of coal from ¼ to 2 inches thick.

We have made a very careful prospect from McEverests in to Missouri, Kansas and Texas track, and find the vein 4 feet 4 inches and very regular until we come 400 feet west of our slope; then the trouble and faults begin.

On the east we will prospect from below, as it is reasonably evident that the north and south dips are connected and buried pretty deep.

As development proves what we have, the company intends to open up on a large and extensive scale.

Statement of active operations, commenced in March.

Average number of men employed since then—	
Inside.....	14
Outside.....	2
Engineer.....	1
Number of days worked monthly.....	17
Tons of coal mined for—	26
Market.....	
Boiler use.....	2,600
Kegs of powder used.....	100
Eight boxes of dynamite (used in brushing).....	225
Boiler, 15 horsepower.....	400
Engine, double, 8 by 9 friction drum, 15 horsepower.....	

Ventilation as yet by two furnaces. We are preparing to put in our fans at earliest opportunity.

I am proud to say there were no accidents.

Gas generates very rapidly.

Daily output at this date, approximately, 65 tons.

Very respectfully,

NIC. BOHN, *President and Manager.*
JOHN FAHEY, *Foreman.*

L. W. BRYAN,
United States Mine Inspector, South McAlester, Ind. T.

Scale of wages.

Weighmen.....per month..	\$60.00	Dumpers.....per day..	\$1.50
Slope engineer.....per day..	1.75	Pit boss.....per month..	65.00
Mine-run coal.....per ton..	.65	Narrow work.....per yard..	1.65
Room turning.....each..	5.00		

DEDUCTIONS.

Smithing.....per month..	\$1.50	Doctor.....per month..	\$1.00
House rent.....per room per month..	2.00	Territory permits.....do....	.25
Powder.....per keg..	2.00		

27. H. NEWTON McEVERS.

This is an approved lease now operated by the above party. It consists of two mines, one of which was but recently opened. They are located at McAlester, Ind. T. Slope mine No. 1, opened in 1899, has been sunk 300 feet and has 2 entries now in operation. The coal is 4½ feet thick and dips 48° to the south. Air shaft is 35 feet deep by 6 feet square. This slope is equipped with an Ellis & Son (St. Louis, Mo.) 100-horsepower double engine, with cylinders 20 by 16 and drum 18 by 7.

SLOPE MINE NO. 2.

Opened in 1901. This slope has been sunk 300 feet, and the coal here mined has an average thickness of 4½ feet and dips 48° to the south. Air shaft 35 by 6 feet square. Equipment consists of an H. L. Scoville (Chicago, Ill.) 20-horsepower single engine, with cylinder 8 by 14 and drum 8 by 4. Friction gear.

The following letter gives the output per month:

McALESTER, IND. T., July 23, 1901.

SIR: In reply to your letter of the 16th instant, I would respectfully state that during the twelve months beginning with July, 1900, and ending with June 30, 1901, coal was mined by H. Newton McEvers on his approved lease No. 1 as follows:

1900.	Tons.	1901.	Tons.
July.....	18	January.....	194
August.....	22	February.....	250
September.....	134	March.....	196
October.....	124	April.....	278
November.....	104	May.....	320
December.....	148	June.....	329
		Total.....	2,117

The above statement may be divided according to the output of each mine as follows:

Slope No. 1.....	tons..	1,758
Slope No. 2.....	do....	359
Total.....	do....	2,117
Total number of men employed during above period.....		60
Total number of days worked during above period.....		260

Proper machinery is now on the ground, and as soon as it is put in position I will be ready to begin extensive operations at once.

Respectfully,

H. NEWTON McEVERS.

L. W. BRYAN,
United States Mine Inspector, South McAlester, Ind. T.

Scale of wages.

Weighmen.....per month..	\$45.00	Laborer.....per day..	\$1.50
Dumpers.....do....	45.00	Pit boss.....per month..	75.00
Top hands.....do....	45.00	Tracklayers.....per day..	2.25
Hoisting engineers.....do....	60.00	Cagers.....do....	2.00
Blacksmiths.....do....	60.00	Screened coal (shift).....per ton..	2.25
Team and man.....per day..	2.25	Loaders (shift).....do....	1.75
Carpenter.....do....	2.50		

No deductions, all work thus far being company work.

28. FOLSOM & MORRIS COAL MINING COMPANY.

This company operates one mine at Midway, Ind. T. It was opened in 1901, and the coal has an average thickness of 3 feet 4 inches, with a dip of 2½ inches to the yard in an east direction. The shaft has been sunk 122 feet and the slope 60 feet. There are 4 entries and 6 rooms now in operation. Shaft is 10 by 7 and third compartment 4 by 7. Ventilation is supplied through an air shaft, which is built to the side of the hoisting shaft. The average number of men employed is 26. Equipment consists of one Litchfield Foundry Machine Company engine, direct acting, with link reversing motion, double, with 16 by 30 cylinders and 6 by 7½ foot drum.

This is a new mine and the bottom partings have just been made. South parting is 125 feet. Slope just started 80 feet from pit bottom. North parting 125 feet. Plane will be started 115 feet from pit bottom. All work has been done as company work, and 35 kegs of powder have been used. The total number in tons of coal produced was 700. The Litchfield engine used is fitted with Beach's safety relief valve and brake and all necessary appliances. Two tubular boilers, 60 inches in diameter, 22 feet long, furnish steam. When this property is properly opened up, which it promises to be, it will be one of the large producing mines in the Territory.

Scale of wages.

Weighmen.....per month..	\$60.00	Timber boss.....per month..	\$75.00
Top hands.....per day..	1.50	Tracklayers.....per day..	2.25
Hoisting engineer.....per month..	75.00	Cagers.....do....	2.25
Blacksmiths.....do....	60.00	Gobbers.....do....	2.12½
Helper.....per day..	1.75	Mine run coal.....per ton..	.60
Carpenter.....do....	2.50	Entry work.....per yard..	2.00
Laborer.....do....	1.50	Narrow work.....do....	1.60
Pit boss.....per month..	85.00	Room turning.....each..	5.00

DEDUCTIONS.

Smithing.....per month..	\$0.50	Doctor.....per month..	\$1.00
House rent.....per month..	4.00 to 7.00	Territory permits.....do....	.25
Powder.....per keg..	1.75		

29. CRESCENT COAL COMPANY.

This company operated a slope mine which was located near Cavanal Station, on the St. Louis and San Francisco Railroad. The company is not now in operation, its assets having passed into the hands of a United States receiver, and no operations are being conducted at this time.

REDMOND & BUSH.

This mine is situated about 3 miles west of old McAlester and the opening has been made on the McAlester vein of coal. A slope has been driven down 60 feet, with an air course driven to the west and connected with an air shaft (furnace power will be used). The coal is 4 feet thick and of excellent quality, pitching in a southwestern direction at an angle of 60°, where the coal was struck, but the last 10 feet has leveled out somewhat, this angle now being a little over 50°.

Coal is hoisted by horsepower, and altogether might be properly termed a very crude attempt at opening a mine and would almost take one back to the antediluvian times.

The coal taken from this mine has been mostly shipped over the Choctaw, Oklahoma and Gulf Railroad.

VALLEY COAL MINING COMPANY.

This company has opened two slopes on the lower or Hartshorne veins. The first slope was driven down about 70 feet on the upper vein and abandoned on account of thinness of the coal. It only measured about 2 feet. They moved back about 70 feet on the surface and started a second slope on the lower vein and have driven down 140 feet. The coal measures 4 feet and pitches 42½ degrees south, and is of very fair quality.

This slope is fitted up with an upright boiler and a steam engine about 16 horsepower, made by H. H. Scoville, Chicago, Ill. The slope is for a single road, with air courses on both sides, one air shaft on west side air course. An overcast will be made over the slope to ventilate the east side entries by furnace.

The principal part of production has been sold for home consumption, the balance shipped over the Missouri, Kansas and Texas Railroad.

This company expects to have the slope driven down, entries turned off, and rooms working ready for the fall trade. They also expect to have a spur track run in from the Missouri, Kansas and Texas Railroad, so they can load coal direct into railroad cars.

ARCHIBALD SPRINGER COAL COMPANY.

This is a slope mine and has been driven down in the lower vein a distance of 230 feet. Coal is 4 feet thick, pitching 22 degrees south. Entries have just been turned off each side of the slope. An air shaft 50 feet in depth has been completed and connected with air course on west side. East entries will be ventilated by overcast on slope, which will connect with west air course (by furnace power). One 60-

horsepower flue boiler has been put in place, and a steam engine (or mendy hoist) 9 by 16 inches will be in position in a few days. A steam pump has been put in and will be in operation in a few days. What coal has been taken out was hauled by wagon and loaded on the Choctaw, Oklahoma and Gulf Railroad cars placed on the spur track running to the "Busby" mine, situated about one-half mile from the above opening.

This company expects to have this mine in full operation for the fall trade; also they have the promise of a spur track to their mine, so that they will be able to load coal into the railroad cars in place of hauling by wagon.

Following is a resume of the accidents for the past year, showing mine number, company or operator, and cause of accident:

Mine.	Operator.	Fall of roof.	Cause of accident.									Total.	Total.
			Gas.	Shot firing.	Fall of coal.	Pit car.	Electric.	Cage.	Engine.	Rope.	Fall down shaft.		
No. 5.....	McAlester.....	4	9	18	3	5						39	76
Slope 7.....	do.....	3	1		1							5	
No. 1.....	do.....	5	2	3	1	5	1					17	
No. 3.....	do.....	3			2		1					6	
Slope 1.....	do.....	1		1					1			4	
Slope 15.....	do.....	1	1									2	
Slope 3.....	do.....	2										2	
Slope 11.....	do.....	1										1	
No. 5.....	Osage.....	4	1	3								8	
No. 11.....	do.....		3		3							6	
No. 8.....	do.....	1										1	
No. 6.....	Atoka.....			1	1	1	1					4	
No. 5.....	do.....	1										1	
No. 6.....	do.....			1								1	
No. 7.....	do.....							1		1		2	
Slope 1.....	Wilburton.....		2	1								3	
Slope 2.....	do.....				1	1						2	
Slope 3.....	do.....		2									2	
Slope 6.....	do.....	1										1	
Slope 3.....	Devlin.....		1	5								6	
Slope 76.....	Kansas and Texas.....	1	1									2	
Slope 77.....	do.....	1										1	
Slope 78.....	do.....	1		1								2	
Slope 3.....	Ola.....		4									4	
Slope 1.....	Samples.....		3									3	
Slope 1.....	Ozark.....		3									3	
Slope 2.....	Southwestern Coal and Improvement.....						1	1				2	
Slope 4.....	do.....	1										1	
Slope 1.....	Perry.....					3						3	
Slope 1.....	Hailey.....	1								1		2	
Slope 9.....	Milby & Dow.....	1	1									2	
Slope 2.....	Edwards.....	1										1	
Total.....		36	32	34	3	20	1	9	1	1	2	139	139

Accidents which proved fatal.

Mine.	Operator.	Fall of roof.	Gas.	Shot firing.	Fall of coal.	Pit car.	Electric.	Cage.	Engine.	Fell down shaft.	Total.	Total.
No. 5.....	McAlester.....		1	6		1					8	156
Slope 7.....	do.....	1									1	
No. 1.....	do.....		1	3							4	
No. 3.....	do.....					1					1	
Slope 1.....	do.....	1									1	
No. 5.....	Osage.....	2	1	3							6	
No. 6.....	Atoka.....			1			1				2	
No. 6½.....	do.....			1							1	
No. 7.....	do.....								1		1	
Slope 1.....	Wilburton.....			1							1	
Slope 3.....	do.....	1									1	2
Slope 3.....	Devlin.....			4							4	4
Slope 76.....	Kansas and Texas.....	1									1	3
Slope 77.....	do.....	1									1	
Slope 78.....	do.....	1									1	
Slope 1.....	Samples.....		2								2	11
Slope 1.....	Ozark.....		2								2	
Slope 2.....	Southwestern Coal and Improvement.....	1									1	
Slope 1.....	Perry.....					1					1	11
Slope 1.....	Halley.....	1							1		2	
Slope 9.....	Milby & Dow.....	1									1	
Slope 2.....	Edwards.....	1									1	
	Total.....	12	7	19		3	1			2	44	44

DETAILS OF ACCIDENTS.

July 2, 1900. John Ayers; age 34; American; loader; married.

This accident occurred in Mine No. 6 at Lehigh, Ind. T., operated by the Atoka Coal and Mining Company, and in room No. 61 off the second south bottom entry. It was the duty of this man to load coal mined by the electric machines, and it was also part of his duty to clear away the dirt and slack caused by the machine mining, throwing the dirt back into the gob. This work was done after the mining, but before shooting down the coal. In this Lehigh field the coal is hard and brittle, and it is not an infrequent occurrence that the standing coal, while apparently undisturbed, has been fractured by previous shots. In this instance it appears that the coal was in this condition, and had perhaps been further jarred loose by the machine mining, and was only supported by the dirt. As soon as Ayers removed the support a large block of coal fell from the face and struck him, breaking his right leg. This was either an unforeseen and unpreventable accident, or else, if the danger was apparent, Ayers neglected to take the necessary precautions for his own safety.

July 7, 1900. John Thorpe; age 27; American; driver; married.

This man was also injured in Mine No. 6 at Lehigh, Ind. T., operated by the Atoka Coal and Mining Company, but in room No. 97 off the first south entry, and accident happened at about 11 o'clock a. m. He also suffered a fracture of both bones of the right leg. It is the practice in this mine for the miner and the driver to take the loaded car from the miner's room to the entry, and in an "uphill" room the driver usually gets in front of the car and the miner behind, and it being an incline from the face of the room to the entry, the miner at

the rear "sprags" the car. In this case, while the loaded car was going down the incline the sprag broke. The miner called to the driver warning him to get out of the way of the run away car. The driver, Thorpe, attempted to do so, but did not act quickly enough and was caught by the loaded car and injured as described.

July 13, 1900. Toby Sorels; age, 23; American; driver; married.

This accident occurred in Mine No. 1, at Hartshorne, Ind. T., operated by the Kali-Inla Coal Company, and in the second north entry of this mine, at about 9 o'clock a. m. The injury to this man was caused by one of the loaded cars comprising a trip leaving the track and somewhat severely crushing the driver's foot.

July 18, 1900. F. R. Cates; American; colored; miner; single.

This accident occurred in Mine No. 6, at Lehigh, Ind. T., of the Atoka Coal and Mining Company, and in room No. 93, off the straight north back entry, at about noon. This man was found in his room with a fractured skull. He had been struck by the coal blown out by a shot, and his body was partially covered with fragments of coal when found lying near one of the shots which had been fired in his room. Two shots had been fired, about 16 feet apart, and both shots were "on the solid." It is very evident that this man bit the squib for one of the shots off too short and was unable to get away after lighting the shot before the explosion, or one of the shots hung fire and the injured man came back to ascertain the difficulty and was caught by the flying coal from the shot going off in his face. The position of his body when found would indicate that he had returned to the shot, it being very close to the face of the room. This man was very severely injured, but through prompt medical attention he recovered. By whichever method this man was caught by his shot, his injury was the result of his own mistake.

July 19, 1900. John Koricko; age, 40; Russian; miner; married.

This man was injured in Mine No. 1, at Hartshorne, Ind. T., of the Kali-Inla Coal Company, and in room No. 48, off the seventh south entry, at about 10 o'clock a. m. Koricko was engaged in taking down a piece of loose slate from the roof of his room, and while doing this the loose slate fell upon him, mashing his foot and slightly injuring his head and back.

July 23, 1900. Arthur Hall; age, 23; American; driver; single.

This accident occurred in Mine No. 5, at Lehigh, Ind. T., of the Atoka Coal and Mining Company, and in the straight north entry of this mine, at about 3 o'clock p. m. This man was riding on the trip of loaded cars which he was bringing from Mine No. 5½ to the bottom of Mine No. 5, when the cars ran off the track. He immediately jumped off, but the cars ran in the same direction in which he jumped, and crushed him between the cars and the rib or side of the entry.

July 26, 1900. H. L. Wear; age, 45; American; miner; married.

This accident also occurred in Mine No. 5, at Lehigh, Ind. T., of the Atoka Coal and Mining Company, and in the fifth south lower entry, at about 9.30 a. m. He was caught by a fall from the roof, resulting in severe wounds on his head and face, with a fracture of the fourth rib on his right side. This man was a miner working in an entry, or "entry man." At the point where he was at work there was a loose piece of rock in the roof. He was aware of this loose piece of rock

himself, and was also warned of its existence by others near him and told of the danger of working under it. It seems that he thought it was a piece of "scaly bony" and not dangerous; but, after being warned of its danger, he promised to secure it by propping, or to take it down or notify the timber man to attend to it, but he neglected to take either of these precautions. It is the duty of an entry man to look out for his own roof, and when a dangerous piece of roof is found he must either take down the loose rock or temporarily secure it by propping, or, if it is too extensive, to notify the mine boss or timber man in order that it may be permanently secured. Wear's injury was the result of his negligence in failing to take the usual precautions obviously necessary for his own safety.

July 26, 1900. G. L. Payne; American; miner. Frank Popkiss; age, 30; Polander; miner; single. Charles Bly; age, 28; German; miner; single.

The accident in which these three men were injured occurred in Mine No. 5, at Alderson, Ind. T., operated by the McAlester Coal Company, and in the main east entry of said mine, about 7 o'clock p. m. Popkiss had his right arm, left hand, and face severely burned and was also slightly burned on his back. Charles Bly had both hands and his back severely burned and was slightly burned on the legs. Payne was burned on his face and neck and right ankle, not so severely. There had been a fire in the main east entry of this mine, and an air-tight dam was built across the entry in order to smother and extinguish the fire. After the fire was supposed to be extinguished this dam or stopping was taken down. It was then found that the fire had caused the roof to fall in a great many places, and the three men above named were sent in to load this fallen rock in cars and send it out. In the afternoon, before these men went to work here, the mine boss had gone into this place and made a careful examination for gas with a safety lamp, and just before the men went to work the mine foreman went into this entry to the place where the men were to work, and, finding no gas with the safety lamp, he safely lit a naked lamp, showing conclusively that the place was free from gas. In the evening, when the night shift went to work, the fire boss or gas man went to the place before the men, and found the place generally clear from gas, except that on reaching the face of the entry and stepping up on a large pile of fallen slate, he discovered gas with his safety lamp at the top of the entry in the cavity which the fall had made. The men had been working about half an hour cleaning up slate, when a small body of gas in this entry was ignited, and the men were burned as above described. It seems to be a safe supposition, though denied by the men, that one of them must have stepped upon one of the piles of rock and ignited the gas in the cavity overhead with his naked lamp. However, there is a slight chance that the gas may have been ignited by the rekindling of the fire at the face.

July 31, 1900. Nick De Martin; age, 42; Italian; miner; married. This man was injured in Mine No. 7, at Alderson, Ind. T., operated by the Kali-Inla Coal Company, and in the sixth west entry, about 11 o'clock p. m. This man was struck by a heavy fall from the roof and so severely injured that he died on the day following the injury. This man was brushing the roof of the entry; he had fired a brushing shot and loaded out four cars of rock. A portion of the roof had opened,

but was not known to De Martin to have been shot loose; he sounded it, and thought it was still so solid that it would stay up, at least for a time. Acting upon this exercise of judgment he went to work immediately under it and very soon it fell, resulting in his fatal injury and death.

August 8, 1900. Hugh Reed; age, 24; American; miner; single.

This accident occurred in Mine No. 1, at Hartshorne, Ind. T., operated by the McAlester Coal Company, at about 10 o'clock a. m. Reed was mining off a shot when a fall from the roof occurred, striking him and causing some bruises on his shoulder, back, and hip, though his injuries were not very severe. It is a miner's duty to look out for the safety of the roof over his working place, and in this instance Reed failed to properly inspect and secure his roof, and was thereby injured.

August 13, 1900. Joe Green; age, 37; Slav; miner.

This man was burned by gas, severely but not dangerously, in Mine No. 1 of the Wilburton Coal and Mining Company, at Wilburton, Ind. T. This man's working place was making gas, and on the day of the accident he was notified by the fire boss not to go into his room. He went in, however, and in attempting to brush out the gas forced it down upon his naked lamp, when it was ignited, burning him as above stated.

August 14, 1900. Morgan Jones; age, 35; Welch; miner; single.

This accident occurred in Slope No. 1 of the Hailey Coal and Mining Company at Haileyville, Ind. T., and at the face of the first east entry, at about 8 o'clock in the morning. Jones was struck by a fall of rock from the roof of the entry and suffered a dislocation of the spine and complete paralysis. He was working at the face of the entry where he had just turned off a room, and when injured was in the act of testing the roof for loose rock. He was in a stooping posture, and was struck directly upon the back and crushed by the fall, which occurred at that moment. This man was an experienced and first-class miner, and the injury was due to one of the unforeseen and unavoidable accidents which occur in the mines.

August 18, 1900. Francisco Castellano; age, 27; Mexican; miner.

This man was injured in Mine No. 50, at Carbon, Ind. T., of the Kansas and Texas Coal Company, and in room 24 off the fifth east entry, at about 8 o'clock a. m. This man was working in his regular working place when a large piece of rock fell from the roof without warning, crushing him to death. A miner looks after the safety of his own roof, and while there is no indication of any carelessness or neglect of duty on the part of this man, neither was his death due to the fault of any other person. It was an unavoidable accident.

August 27, 1900. R. E. Price; age, 36; American; miner; married. Osias Price; age, 15; American; helper; single.

The accident by which these two persons were injured occurred in Mine No. 1 of the Samples Coal and Mining Company, near McAlester, Ind. T., and in room No. 5 off the second west entry, about 7 o'clock a. m. R. E. Price was severely burned by gas, so that he died on September 1. Osias Price, his son, was also severely burned and died on August 29. This man and his boy were working a double room, one about 36 feet in width, the center being tightly filled with gob, a road traveling each side of the gob, and the air passing up one road

and down the other. Previous to the date of this accident there had been no gas making or accumulating in this working place, but on the Saturday preceding the Monday when the accident occurred the mine was idle, and during that day and the Sunday following, when the mine was also, of course, not working, some gas had accumulated in this room. On Monday morning the fire boss discovered gas and dead lined both entrances to the room, but R. E. Price disregarded this danger signal, and going into the room with his naked light ignited the gas and burned both himself and his boy, who had followed him, so that each afterwards died as a result of the burns.

September 6, 1900. John Farmento; age, 27; Italian; miner; single.

This accident occurred at Mine No. 52 of the Kansas and Texas Coal Company at Carbon, Ind. T., and in the sixth west air course of the mine, at about 10 o'clock a. m. Farmento was struck by a fall of slate from the roof and so severely crushed as to result in a complete paralysis of the lower part of his body, and death. This is a type of the serious accidents which occur in the coal mines in this Territory, and which it seems impossible for either the operators or the mine workers to foresee or prevent. And this condition is well illustrated by the full account of this accident, which is here given. Four men were working in the sixth west entry and sixth west air course, Farmento and another in the entry. The pit boss had occasion to complain to Farmento and his coworker that they were not keeping the entry level, and the men thereupon indicated their desire to change their work. The other two men working in the air course learned of this and stated their preference to work in the entry, and thereupon the change was made between the men, without, however, consulting the pit boss or anyone else, and entirely upon their own responsibility. Farmento had worked in this new place, the air course, about two days when the accident occurred. At the time of the accident he was seated upon the upper rail in the entry, and immediately opposite a break-through about 35 feet back from the face, eating a lunch. At some time prior to the accident a brushing shot had been fired in the roof, and had probably left a powder crack, which had loosened or weakened a piece of the roof, but no defect in the roof was visible, nor indeed is it probable that the defect could have been discovered by a careful inspection. The roof at this point of the mine is exceedingly good, and there was no especial reason to suspect any danger at this point. However, it was the duty of Farmento to see that the roof of his working place was safe, and he had no business to sit down to eat his dinner without using at least ordinary care to ascertain whether the roof at that point was safe. It seems entirely probable that no inspection of the roof would have revealed the danger, and there was no way by which the accident could have been avoided.

September 11, 1900. A. W. Brown; age, 43; German; miner; married.

This accident occurred in Mine No. 3 of the Devlin-Wear Coal Company, at Witteville, Ind. T., in room No. 2, off the fifth south entry, at about 3 o'clock p. m. It seems that Brown went into a room other than his own to put out a fuse which was burning in a drill hole in which a gas feeder had been struck. Just as he approached the hole the powder and the gas were ignited, and he was severely burned on the body, arms, and face, and died on October 1. This man's burns

were especially severe on his body, because he was wearing no shirt, which would have furnished him a great deal of protection, and probably so decreased the severity of his burns that his injuries would not have been fatal.

September 13, 1900. James Alls; age, 24; American; miner; married.

This accident occurred in Mine No. 1, at Hartshorne, Ind. T., operated by the McAlester Coal Company, and in the fourteenth south entry, at about 4.15 o'clock p. m. This man was struck by a runaway car and crushed between the car and the rib, resulting in a fractured thigh and severe body bruises.

September 19, 1900. B. Palifico; age, 32; Italian; miner; single.

This man was injured in Mine No. 1 of the Wilburton Coal and Mining Company, at Wilburton, Ind. T., in room No. 1, off the fourth east entry, about 12.30 o'clock p. m. Palifico and two other men were working in the fourth east entry and air course. A room had recently been turned from the air course and driven about 10 feet, in which no one was working at this time. Before firing their shots at noon these men threw their shovels up into this newly started room, so as to be out of the way of injury from the flying coal. After dinner, when they returned to work, Palifico went up into this room for the shovels, and ignited a small body of gas which had accumulated in the room during their absence as a result of a feeder being opened by the force of their shots near by. Neither of the other men were burned, and Palifico's burns were not severe.

September 20, 1900. Robert Leveriman; age, 48; German; loader; married.

This accident occurred in Mine No. 5 of the Osage Coal and Mining Company, at Krebs, Ind. T., and in room No. 7 on "C" entry on the plane, at about 10 o'clock a. m. Leveriman was working as coal loader at the time of this accident, loading coal in a room where another miner was at work. It was the duty of the miner working in this room to keep the roof in a safe condition, and on the morning this accident occurred had securely propped the roof, placing three props near the face. When the accident was discovered Leveriman was found lying close to the face, crushed under a fall from the roof, and one of the props was found removed from its place. All indications point to the fact that Leveriman had taken down one of the props in order to have more room to shovel his coal, and had thus released the support from a bad piece of rock in the roof. His spinal column was dislocated, and he died as a result of this injury on November 11, 1900.

September 21, 1900. Lewis Nesbit; age, 40; American, colored; timberman; married.

This accident occurred in Mine No. 5 of the McAlester Coal Company, at Alderson, Ind. T., and happened at about 4 o'clock p. m. Nesbit was taking some timbers down into the mine, and had unloaded these timbers between the track and the rib, placing them too close to the track. A car coming down the grade struck the timber, which in turn struck Nesbit, breaking his leg between the knee and ankle.

September 25, 1900. Bert Atkinson; American; laborer; single.

This accident also occurred in No. 5 mine of the McAlester Coal Company, at Alderson, and at the shaft bottom, at about 8 o'clock a. m. Atkinson was pushing a car around the side track at the bottom of the shaft, when he struck a car ahead of him with the car he was pushing, causing the first car to topple over into the sump. He kneeled down and was looking over into the sump after this car when the cage came down upon his head, causing a fracture of the lower jaw.

October 9, 1900. Jake Steifel; age, 22; Polander; miner; single.

This accident happened at Mine No. 7 of the McAlester Coal Company, at Alderson, Ind. T., and in room No. 46, off the sixth west entry, at about 2 o'clock p. m. This man was struck by a fall of slate from the roof of his room, breaking his left arm and left leg. He had cleaned up his room and was preparing to put in some shots when the fall occurred at the end of the roadway. The injured man had evidently failed to properly examine and prop his roof, as it was his duty to do for his own safety.

October 10, 1900. Frank Nunneley; age, 29; American; shot firer; single. John Miller; age, 37; shot firer; German; married.

These men were injured in a very serious and violent explosion, which occurred in Mine No. 3 of the Devlin-Wear Coal Company, at Witteville, Ind. T. Frank Nunneley was burned about the face and both arms, but not seriously, while John Miller was so severely burned that he died on October 20. These men were both shot firers, and under the system in vogue at this mine there were no other persons in the mine while these men were performing their duties, and to this rule or system is due the fact that no other lives were lost. And it is remarkable also that Nunneley was able to escape with his life in view of the violent character of the explosion. Both men were in the fourth south entry when the explosion occurred. From the statements of the men and the physical evidences in the mine, it seems clear that the explosion was caused by one or more "windy" or "gunning" shots. One shot which had been placed in the right rib in the left crosscut to the slope was undoubtedly a blown out or windy shot, the tamping having been blown back out the hole; in addition to this, several shots on the right crosscut showed signs of overpowdering, and no doubt also created a great deal of flame, thus adding to the force of the explosion. There were nine shots in all fired in and around this point, and according to the statement of Frank Nunneley, four of them went off after the gunning shot in the right rib.

October 22, 1900. David Stewart; age, 40; Scotchman; pit boss and gas man; married. Sam Wilson; age, 52; American; miner; married. Frank Wilson; age, 14; American; helper; single.

These men were all injured in an explosion of gas which occurred in Mine No. 1 of the Ozark Coal and Railway Company, at Panama, Ind. T., in the second east entry of said mine, at about 6.40 o'clock a. m. David Stewart was severely burned on the hands, arms, and face, and died October 24. Sam Wilson was also burned, especially on the hands and arms, and slightly on the face and body, but not fatally. Frank Wilson, son of Sam Wilson, was severely burned, and afterwards died. David Stewart, while attending to his duties as gas man or fire boss, was in the mine early in the morning before the men examining the working places for gas. He found a small body of gas

in the second east entry, and was engaged in brushing it out to clear the place, using a safety lamp in his work. It is the rule in this mine that no men shall enter until the fire boss completes his examination and makes his report as to the condition of working places. When places are found with a considerable body of gas the same is dead-lined and the men notified not to enter. When the amount of gas found is small, he brushes it out so as to make the working place safe and workable. Wilson and his son entered the mine twenty minutes ahead of the proper hour, before the gas man had come out and made his report. As they approached the point where Stewart was brushing out the gas, the gas was ignited by the naked lamp borne by Wilson, resulting in the death of his son and of the fire boss, and of his own injury.

November 1, 1900. George Withers; age, 27; American; mine foreman; married. Peter Kelly; age, 27; American; track layer; married. A. A. Ireland; age, 20; American; laborer; married.

These three men were all burned by a slight explosion of gas in Mine No. 5 of the McAlester Coal Company, at Alderson, Ind. T., about 1 o'clock p. m. Withers and Ireland were in the slope entry and, under the direction of Mr. Withers, mine foreman, endeavoring to fan out a small body of gas. Finding it to be impracticable to accomplish this, the foreman started to leave the place and instructed Ireland to come out and to bring his lamp, being very careful in handling it so as not to ignite the gas. Ireland picked up his lamp to come out and raised it up too high, thereby touching the gas body and igniting it, with the result that both Withers and Ireland were severely burned about the face, neck, back, arms, and hands. Peter Kelly was attending to his duties of track laying in the main north entry, when the gas ignited by Ireland in the slope entry came down to the point where Kelly was at work and burned him about the face and hands.

November 2, 1900. Lewis M. Savage; age, 31; German American; miner; married.

This accident occurred in Mine No. 3 of the McAlester Coal Company, at Gowen, Ind. T., in room No. 4 on the fifth west entry, about 4.35 p. m. Savage was at work in his room, in which he had securely propped the roof, when a new man, acting as loader, pulled a pit car off the track and thereby struck and knocked down a prop, which permitted a piece of slate to fall from the roof upon Savage's hand while he had hold of the car. His left hand was somewhat crushed and the third finger cut off.

November 5, 1900. Felix Burliska; age, 23; Polander; miner; single. Adam Zings; age 24; Polander; miner; single.

These two men were burned in the tenth north entry off No. 4 slope in Mine No. 1 of the McAlester Coal Company, at Hartshorn, Ind. T., at about 2 o'clock p. m. Both were severely burned and Burliska died on December 2. Burliska was a miner working in room No. 11, which was free from gas. He sometimes made it a practice after his day's work was over or when he wanted to take a little rest to go to the face of the entry. The entryman informed him there was gas at the face and objected to his coming. Burliska, however, stated that he had a safety lamp and knew how to handle gas, and would often go to look at the work in the entry in spite of their remonstrances. On this occasion he went to the face of the entry and either with a naked lamp

or by unskilled use of a safety lamp set fire to the gas, severely burning himself and Zings, who was there at work. Had he remained in his own working place or heeded the remonstrances of the entryman the accident would not have happened.

November 7, 1900. John Mosely; age, 25; American, colored; shot firer; single.

This accident occurred in Mine No. 15 of the McAlester Coal Company, at Alderson, at about 8 o'clock p. m. Mosely's duties as shot firer required him to enter the mine after 5 o'clock when all others were out, to fire the shots. This mine makes a good deal of gas, and the shot firers are provided with safety lamps and brushing canvas; for after the men were out, and there was no moving about or stir in the mine, small bodies of gas would accumulate at the working faces before the shot firer could make his round. In this case Mosely discovered a small body of gas at a point where he desired to fire a shot. He evidently endeavored to fan out the gas, but before ascertaining that he had done so sufficiently, he took in his naked lamp to light the fuse and thus ignited the gas, burning him so severely that he afterwards died.

November 9, 1900. Felix Zarlangen; age, 23; Italian; miner; single. Peter Cinocco; age, 35; Italian; miner; married.

These men were burned by an explosion of gas on the lower entry A in Mine No. 11 of the Osage Coal and Mining Company, at Krebs, Ind. T., at about 4 o'clock p. m. Zarlangen was slightly burned on the arms and back, while Cinocco was severely burned on his hands and arms. These men had been drilling some holes and tamping the shots, and while so engaged their lamps were properly placed upon the floor, for the men were both aware that in drilling and tamping the holes some gas would come out into their working place and of course gather at the roof. As they finished their work, however, either one or both took up their lamp, or lamps, and raised them to the roof, which, of course, ignited the gas and burned the men as described.

November 12, 1900. Peter Filone; age, 50; Italian; miner; married.

This accident by which Filone lost his life occurred in the eighth entry of Mine No. 1 of the McAlester Coal Company, at Hartshorne, Ind. T., about 4.40 o'clock p. m. This man was killed by a blown-out shot fired at an improper time and without notification to Filone, who was passing, and who was struck by the flying coal and killed.

November 16, 1900. Charles Bearer; age, 24; American; driver; married.

This accident occurred in Mine No. 3 of the McAlester Coal Company, at Gowen, Ind. T., in room No. 2 of "MN" entry, at about 9 o'clock a. m. This man was struck by a runaway trip of cars and somewhat severely bruised about the head, shoulders, and back.

November 19, 1900. John Haddart, sr.; age, 50; American; engineer; married.

This accident happened at New No. 4 shaft, Coalgate, Ind. T., operated by the Southwestern Coal and Improvement Company, at about 1.30 o'clock p. m. Haddart was running a hoisting engine at a new shaft which was being sunk. He had just started to hoist two

men from the shaft and had raised them a few feet when his engine stopped on the center. By using a friction brake on the drum he let the cage drop back to the shaft bottom; then placing his left foot in the spoke of the wheel he threw the engine off the center, but as he had not shut off all the steam, it started up very suddenly and caught his foot between the wheel and connecting rod, crushing it so badly that amputation was necessary.

November 20, 1900. Jerry Clayburne; age, 30; American; machine man; married.

This man was injured in Mine No. 7 of the McAlester Coal Company, at Alderson, Ind. T., in the tenth east back entry, at about 10 o'clock a. m. A brushing shot had been fired in the roof of Clayburne's working place, which he had worked off, and he was cleaning up preparatory to starting his machine. The shot had left a loose piece of rock hanging from the face, which it was apparent would soon fall. Clayburne, instead of taking this down, was watching it, expecting to jump away when it fell. It came down very suddenly and he did not get away quick enough. He was caught by the fall and his leg was broken.

December 6, 1900. Charles Gallagher; age, 33; Scotch; brusher; single.

This accident occurred in Mine No. 5 of the Osage Coal and Mining Company, Krebs, Ind. T., and in room No. 3, off the top main east entry, about 8 o'clock p. m. Gallagher was employed in this mine as a brusher, and on the evening of the accident, wanting a drilling machine, he started out to look for one. He went into room No. 3, off the top main east entry, with his lighted lamp on his head, igniting a body of gas in that room, burning him on his hands and face, from which injuries he died on December 21. Gallagher was familiar with the rules of the mine, and knew that the night gas man had not yet been through that part of the mine, so that he incurred great risk in going into a working place which had not yet been examined for gas, and one of whose condition he knew nothing.

December 7, 1900. Lewis Farassa, Italian; shot firer; single. G. B. Dallasasse; Italian; shot firer; single. Jim Carranto; Italian; shot firer, single.

These three men died from suffocation resulting from a very violent explosion in Mine No. 3 of the Devlin-Wear Coal Company, at Witteville, Ind. T., at about 8.30 o'clock p. m. Farassa and Carranto were in the air course of the fifth north entry, while Dalassasse was in room No. 1, off the fifth north. This explosion, beside resulting in the loss of three lives, practically wholly wrecked the mine, and it has not since been worked. There have been five or six serious and violent explosions in this mine, and as a result great precaution has been taken on the part of the management to avoid just this sort of an occurrence. The mine has been thoroughly sprinkled, and a system of shot firing has been installed by which, while the shots are being fired, no other persons are allowed in the mine. The shot firers go in after 5.30 p. m., and they have the entire night, if necessary, in which to do their work. After the earlier explosions in this mine, rigid instructions have been given the shot firers to take plenty of time, fire slowly, and only one or two shots at a time. In addition, they are instructed to fire no shots

whatever that were, because of their character, the least dangerous; and the shot firers were provided with a needle so that they might test any shot which seemed likely to prove a bad one and thus ascertain just how each shot was prepared. In this instance these shot firers did not take the needle, but left it in the blacksmith's shop, where it was found after the explosion. They also fired all the shots in the mine in very rapid succession, lighting seven shots at one time in the portion of the mine where this explosion originated. So rapidly had they fired the shots that they were completing their work at 8.30, after having been in the mine only three hours. An examination of the shots also disclosed the fact that there were two very badly prepared shots in the sixth north air course, which they fired. One of these shots was too tight, or too much on the solid, and the quantity of powder used too small, so that it would in all probability be a windy shot. Another shot at this point was overcharged with powder, which would cause it to throw wild and blow out flame. Both these shots had been tamped by the shot firers themselves, and they, therefore, had an opportunity to examine the same carefully. From the point of origin of the explosion the flame and wind had traveled 1,300 feet before finding an outlet at the shaft mouth, and the heat and force were most intense and violent. Coked coal dust to a depth of nearly 2 inches was found upon the mine timbers more than 50 feet from the source of the explosion. A sprag (a piece of wood about 2 inches in diameter and about 14 inches long) was blown through a prop; a powder keg was wadded into a small crevice as if it were tissue paper; a soft piece of tin about 2 inches square was deeply imbedded in a hard piece of timber; and as the force of the explosion found vent up the shaft it entirely destroyed the engine house and lifted up and blew out the roof of the mine and the sides of the shaft, so as to make it necessary to dig a new opening into the mine to recover the men's bodies. The men who were killed had worked in this mine as shot firers for some months, and had previously been employed in other mines in the same capacity. They lost their lives and wrecked the mine through their desire to save a few hours' work.

December 11, 1900. Tom Corado; age, 22; Poland; miner; single.

This accident occurred in Slope No. 1 of the McAlester Coal Company, at Alderson, Ind. T., in room No. 4, off the west entry, at about 10 o'clock p. m. Corado went into the mine at about 10 o'clock to fire several shots which he had himself prepared in his own room. In his desire to make his powder do a large amount of work he prepared very heavy shots, and in this case also at least one of the shots had been badly prepared, so that it blew out the tampings and made a windy shot and permitted the flame to go into the entry and into another room to which Corado had retreated after lighting his shots. By this flame he was burned about the face, neck, hands, and back, but not seriously.

December 12, 1900. William Harvey; age, 38; American; miner; married.

Harvey was struck by a piece of rock falling from the roof in room No. 10, off the second west entry of Mine No. 6 at Wilburton, Ind. T., and operated by Strong & Co., under contract with the Wilburton Coal and Mining Company. He was engaged in drilling a hole when the loose piece of rock from overhead fell upon his leg, breaking it in

two places. It seems that Harvey thought that his roof was safe, and while the piece of rock that fell was small, it caught him in such manner as to result in a broken leg.

December 14, 1900. Fred Fischer; age, 30; German; miner; single.

This man was severely burned about the body, face, and arms by a gas explosion in room No. 13, off the second entry of Mine No. 1 of the Samples Coal and Mining Company, near McAlester, Ind. T., at about 7.30 o'clock a. m. This man had been working in room 13, which had been generating a small quantity of gas near the roof. On the day of this accident, and just before it occurred, the gas man made an examination and discovered a small quantity of gas. He marked the room and informed Fischer personally of the presence of the gas, and that he must not take his naked light into the room until after the gas was brushed out. Just as he turned away he felt wind and heat and fell to the floor just in time to avoid being burned. Another miner also standing near was just in the act of pulling off his shirt for the purpose of going to work, and the shirt over his face and head protected him from injury. Fischer, however, had already discarded his shirt and himself lighted the gas by placing his lamp in his cap and lifting his head up near the roof. Having the whole of the upper portion of his body unprotected by a covering of any kind he was severely burned, and died on December 17.

January 3, 1901. Frank Enlow; age, 27; American; machine helper; married.

This accident occurred in room No. 80 of the second south entry off slope, in Mine No. 6 of the Atoka Coal and Mining Company at Lehigh, Ind. T., at about 9 o'clock a. m. of said day. This man was employed as an electric machine helper; he had worked at this business for a long time and was thoroughly familiar with the duties and the risks incident thereto. When this accident occurred Enlow, with two others, were about to swing the electric mining machine to the right from its former position in order to make another cut; Enlow was at the front of the machine, near the face; all the men were prying with iron bars on the iron skids to swing the machine around. By the carelessness or inadvertence of one or more of them the electric cable became caught between the machine and the iron skid at the rear, and this dragged the nipples from the sockets, allowing the nipples to fall upon the iron frame of the machine and making a short circuit. All three men were slightly and momentarily shocked. As soon as there was a short circuit made the circuit breaker was thrown out and the current ceased. Neither of the other men suffered in the least from this shock; the utmost power of the current was 240 volts, and the amount of shock was only such as is very frequently received by other men with impunity. In Enlow's case, however, he soon died, and the real cause of his death was no doubt heart failure, probably superinduced by the slight electric shock he had just received.

January 4, 1901. B. C. Ward; age, 36; American; switchman; married.

This accident occurred in the sixth west entry of Mine No. 3 at Gowen, Ind. T., operated by the McAlester Coal Company, and about 4.40 p. m. Ward's duties as switchman consisted in his receiving the empty trips of cars on the slope, switching them into the proper entry on a double track, or double parting, and attaching the rope to the

loaded cars that they might be raised up the slope from the bottom of the shaft. The switch by which he diverges the empty cars from the track on which the loaded cars are standing is operated by the foot and known as the "kick latch." In this instance the switch did not work properly and the empty cars came in along the track in front of the loaded cars and before Ward could get out of the way his leg was caught between the bumpers of the foremost empty car and the foremost loaded car. The only injury received at the time was a fracture of the right leg between the knee and ankle, but afterwards, on January 8, the injured man died.

January 7, 1901. S. J. Creggers; age, 30; American; miner; single.

This man was burned by a small explosion of gas in room No. 9 off the fourth east entry of Mine No. 50 of the Kansas and Texas Coal Company at Carbon, Ind. T., about 6.20 o'clock a. m. This man was somewhat severely burned about the face, neck, and ears, and hands and arms. On the morning of January 7 the gas man employed in this mine discovered a small body of gas in this man's working place, room No. 9. He placed a gas mark at the mouth of the room and warned Creggers, in addition, of the presence of gas there. Creggers placed his naked lamp in the mouth of the room, went inside, and in brushing the gas out drove it down onto his naked light, causing an explosion, burning him as above described.

January 8, 1901. Peter H. Kerrigan, sr.; trapper; married.

This accident occurred at the tenth north entry off fourth slope in Mine No. 1 of the McAlester Coal Company at Hartshorne, Ind. T., at about 10 o'clock a. m. The injured man was attending a door as trapper at fourth slope tenth north, and in opening a door for a car to pass he failed to get entirely out of the way of a car, which struck him, throwing him against the rib or side of the entry. He received some severe bruises about the hips but no bones were broken and the injury was not very serious.

January 14, 1901. Fulton Gray; age, 34; American; miner; single.

This man was injured by a slight explosion of gas in room No. 56, sixth west entry, in No. 7 mine of the McAlester Coal Company at Alderson, Ind. T., at about 7 o'clock a. m. The point where this man was burned while called a room was, in fact, a plane or narrow entry commenced where room 56 would have been, and was being driven up hill to connect with the entry above for purposes of ventilation. In driving this plane, before connection is made with the other entry, the gas is expelled by the use of pipes conveying compressed air, which is used in this mine to run the mining machines. At night when the men ceased work in this plane they would leave the air pipe lying with the valve open at the face, so that the moment the compressor started in the morning the escaping air would clear the room of gas which had accumulated during the night. The men working here were therefore furnished with a safety lamp and instructed to use the utmost caution in going into the working place in the morning, and to take in no open light until fully assured, by examination, that the place was free from gas. In this instance, however, everything indicates that this man must have gone direct to the face with his naked light and thus ignited the gas, resulting in his injury as stated.

January 15, 1901. Edwin Rolison; age, 19; American; machine helper; single.

This man was injured at upper B entry of Mine No. 8 of the Osage Coal and Mining Company, near Krebs, Ind. T., at about 10 o'clock a. m. Rolison, with assistance, had moved a mining machine to the switch of upper B entry, and before placing it for a new cutting was taking down some loose slate that was hanging at the face of the entry. While doing this work a piece of rock behind him fell, striking him on the back, slightly bruising his left shoulder.

January 16, 1901. Joe Bocavitch; age, 23; Poland; miner; single.

This accident occurred on the slope in No. 7 mine of the McAlester Coal Company at Alderson, Ind. T., at about 4.15 p. m. The injured man had finished his work or decided to quit some time before the usual quitting time and started out and up the slope. At about the seventh lift he was struck by a descending trip and run over by the cars, receiving a broken leg. At the point where he was injured there was room at the side of the track for him to have avoided the cars. The cars did not go off the track, and the only apparent reason for the occurrence of this accident is the attempt by the injured man to come out of the mine by the slope at an unusual hour for men to be traveling on the slope and his carelessness in failing to get out of the way of trip of cars.

January 23, 1901. F. Kostankewicz; Poland; driver.

This accident occurred on the second north entry, fourth slope, in Mine No. 1 of the McAlester Coal Company, at Hartshorne, Ind. T. Kostankewicz was coupling cars of a trip when his mule suddenly started, causing the cars to move along the track, and this man was caught between the rear car and the rib of the entry and slightly bruised.

On the 16th of January an explosion occurred in the shaft of the Hailey Coal and Mining Company, at Haileyville, Ind. T. Immediately after the explosion occurred the mine was in such condition from smoke and gas that it was impossible to make an examination at that time, and soon afterwards smoke began to issue from the air shaft in such volume that it was very evident there was fire in the mine. The mouth of the shaft was therefore sealed up; making the mine air-tight, and was kept in that condition until the morning of January 24 to smother and extinguish the fire. When the covering was removed there was no evidence of fire, and after the necessary precautions were taken an examination was made. It was found that a shot fired in No. 2 room on the top entry, west side of the shaft, was the cause of the explosion. The hole was $4\frac{1}{2}$ feet deep and very light at the heel, only about 12 inches, while at the point it was $4\frac{1}{2}$ feet and contained, as nearly as could be ascertained, about 22 inches of powder. It blew the coal all over the room, breaking it up very considerably, and there still remained in the solid coal 11 inches of the hole.

The room was dry and the flame from the shot ignited the dust and the fire increased as it traveled to the return air shaft. There was no fire in the loose coal in the room and the curtain at the mouth of the room was not burned. The first indication of fire in the coal was east of room No. 1 and thence down the "slish" to the main west entry. The trap door on the "slish" and also the props standing along the

top entry toward the return air shaft were burned, and the mid wall of the air shaft was scorched. The force of the explosion did very little damage to the mine. The mid wall of the air shaft was blown out to about 45 feet from the top of the shaft; no stoppings were blown out, and the mine was at this date entirely free from gas and fully working again.

February 9, 1901. James Hamilton, age, 28; American; miner; single. Henry Hogue, age, 28; American; miner; single.

This accident occurred on the slope in Mine No. 2, operated by Perry Brothers, at Coalgate, Ind. T., at 8 o'clock a. m. These two men, with a third who was but very slightly injured, attempted to ride down the slope in an empty car as they entered the mine to go to work on this morning. As the rope rider in charge of the trip jumped on the car, he in some way slackened the rope so that the hook became detached from the car, allowing the car to rush rapidly down the slope, and it struck the parting and was wrecked. Hamilton was very severely injured, his spinal column having been dislocated, while Hogue had his right arm and right leg broken. The miners are strictly forbidden to ride to their work on the slope, but it is a difficult matter to entirely prevent this practice, and these men suffered the above injuries because of their violation of this rule.

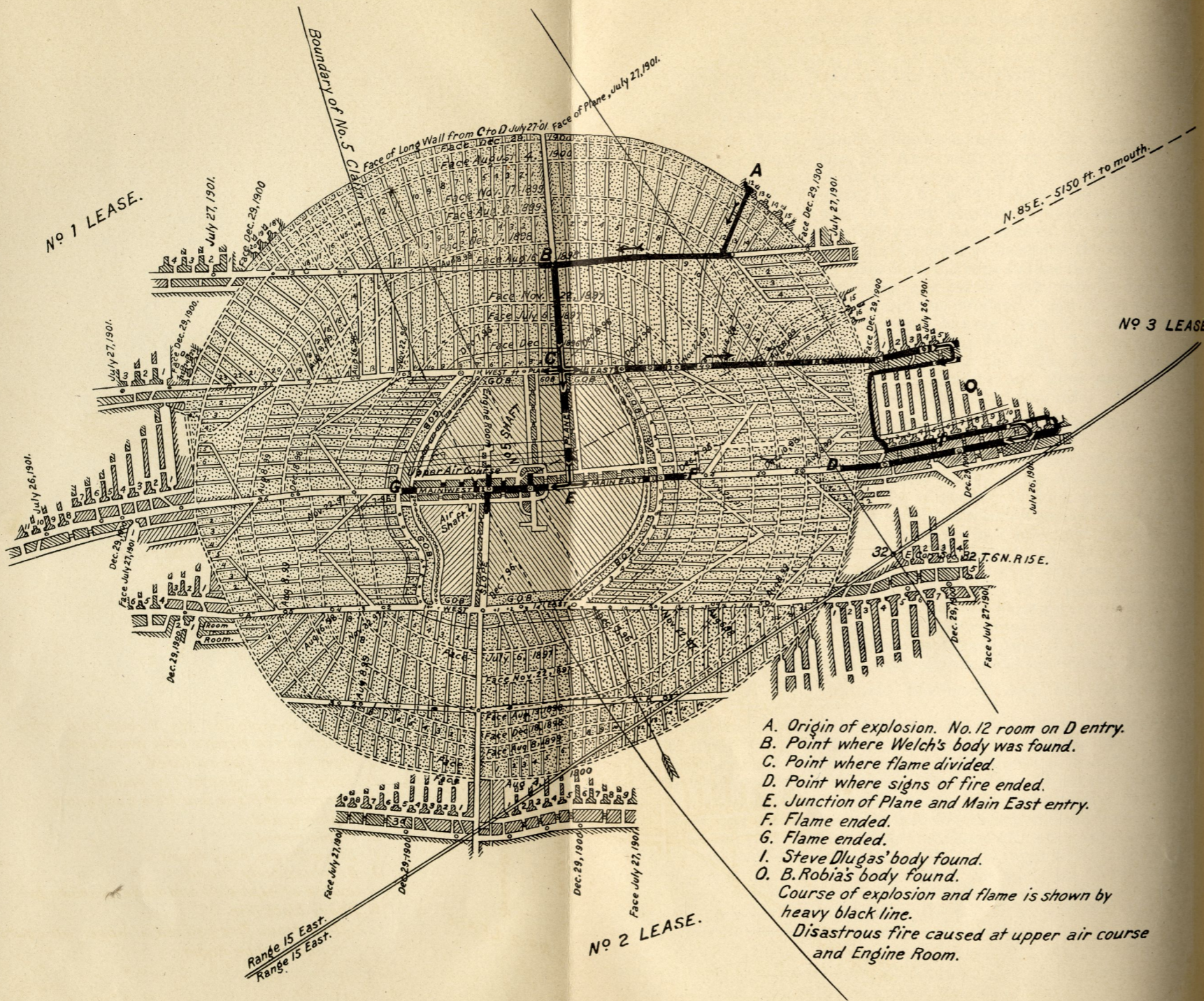
February 11, 1901. Edward White; age, 45; American; miner; married.

This man was killed by a fall of slate at his working place in room No. 9, off the first west entry of Mine No. 67 of the Kansas and Texas Coal Company at Carbon, Ind. T., at about 1 o'clock p. m. This is another instance of that class of accidents which it seems almost impossible to entirely prevent. White's room had been put in first-class condition and was apparently securely propped. As he was in a sitting position, working off coal at the face, a rock fell from the roof, crushing him so as to result in instant death. It is possible that the injured man had failed to sound his roof for loose pieces of rock, but it is more probable that the defect in the roof was one which was entirely concealed and which could not have been discovered by any examination, being one of the unavoidable risks incident to this work.

February 21, 1901. Antonio Whiterass; age, 34; Slav; miner; single.

This man was instantly killed by a shot which he had himself prepared in room No. 8, off the fourth west entry of Mine No. 1 of the Wilburton Coal and Mining Company, at Wilburton, Ind. T., and the accident happened at about 11.50 o'clock a. m. Whiterass had prepared two shots in this entry and other miners had prepared five more. After they had all fired and waited for the explosions some of the miners insisted that only six shots had gone off, while others claimed that all seven had been exploded. Whiterass, especially, insisted that seven had gone off, and notwithstanding the warnings of others who told him not to go back, at least for a while, he went right on into his room and evidently arrived just as the last shot went off. His head was crushed by the flying coal and he died instantly.

February 28, 1901. William Welch; age, 50; Welsh; shot firer; married. Batiste Rabia; age, 27; Italian; shot firer; single. Steve Dluca; age, 29; Austrian; shot firer; married.



- A. Origin of explosion. No. 12 room on D entry.
 - B. Point where Welch's body was found.
 - C. Point where flame divided.
 - D. Point where signs of fire ended.
 - E. Junction of Plane and Main East entry.
 - F. Flame ended.
 - G. Flame ended.
 - I. Steve Dlugas' body found.
 - O. B. Robia's body found.
- Course of explosion and flame is shown by heavy black line.
- Disastrous fire caused at upper air course and Engine Room.

These three men lost their lives in one of the most violent explosions that has ever occurred in the Indian Territory, that of February 28, 1901, in Mine No. 5 of the Osage Coal and Mining Company, at Krebs, Ind. T., a detailed account of which explosion is here given.

On the 28th day of February, 1901, an explosion occurred in No. 5 mine, near Krebs, operated by the Osage Coal and Mining Company, causing the death of three persons and 15 mules. The explosion occurred after the day's work had been completed and only the three shot firers were in the mine; they were all killed. The mine was ventilated by a 15-foot Crawford & McCrimmond fan, which supplied an abundant quantity of pure air, said fan being located on an air shaft about 160 feet west of the main or hoisting shaft. At the bottom of the hoisting shaft the guides and shaft timbers were blown out and disarranged so that the cages could not be run nearer to the bottom of the shaft than 40 feet. An entrance was soon effected into the mine after the explosion, when it was found that the mine had been greatly damaged. A great many of the timbers on the double partings had been blown out, and large falls of slate had taken place, which made it both difficult and dangerous to proceed into the workings; also the flame had crossed from the east side to the west side of shaft, where the stables were located, setting fire to the hay and woodwork of same, which turned out to be most disastrous and expensive. This will be taken up more fully later. Welch's body was found at the entrance to the D entry plane. He was not burned, death being caused by the after damp. Steve Dlugas's body was found in the upper main east entry, between Nos. 5 and 6 rooms, and was burned. Batiste Rabia's body was found at the face of No. 8 room, upper main east entry, also being burned. Mr. Welch and Steve Dlugas were found the night of the explosion, but Rabia's body was not found until the 4th day of March, four days after the accident. It is clear to the investigators that Welch fired the fatal shot. He, no doubt, lit the shot in No. 12 room on the D entry, then retired to a place of safety. After the explosion started, which traveled out the D or second east entry, Welch tried to escape by the same route, but the deadly after damp was there in such quantities that he was suffocated by same. The other two men, who were both in the main east entries, encountered the flame that traveled from the seat of explosion and were burned and suffocated by the after damp. The explosion originated in the D or second east entry (plane), and was caused by the shot firer firing a badly prepared shot.

Investigation showed that a large body of flame had traveled from No. 12 room out the D or second east entry to plane, thence down plane, dividing at the first east and west entries, A and B. A considerable portion of the flame traveled in the first east or B entry to face, thence down along the long wall face to main east upper entry, traversing this entry into the last break-through, thence down to the lower entry, making its exit by same. No great violence was observed in this entry, but charred or coked coal dust was in evidence on props and sides of entry, showing clearly the direction the fire had traveled. Coming back to the plane where the flame divided, considerable force was exerted in the first west or A entry, but no evidence was found showing any large quantity of fire had traveled in this entry beyond the end of double switch. However, great force was shown here, as the trapdoor in this entry was blown from the plane quite a distance and broken into small pieces. It was clearly in evidence that great

force and much flame had traveled down the plane to the double switch leading to the shaft. Here great havoc was wrought, many cross timbers being blown out, heavy falls of slate resulting thereby. Here the force seems to have again divided, part traveling in the main east entry and part going to the west side of shaft. Investigation showed that the force traveling in the main east stopped after it had traveled between 300 and 400 feet. It is believed by all who investigated that this force met the force that had traveled in the first east or B entry, thence down to main east, and was making its exit thereby. Props and electric wires were blown out from the face of this entry, while props, timbers, and other débris were blown inward from junction of plane with said entry. For a considerable distance this entry was not disturbed. This, in my opinion, was the point where the two forces met and spent their energy.

Proceeding out toward the shaft from the junction of the plane with main east entry, great force was in evidence; loaded cars had been overturned and large timbers displaced. Coked coal dust was found all over timbers and sides of entry. Two pairs of scales for weighing the coal in pit cars were placed at the entrance to main east and west entries. Both pairs of scales were forced down into scale pit, the levers and bearings being broken into many pieces. These scales had a weighing capacity of 5,000 pounds each. It will be readily understood what an enormous pressure must have been exerted on the platform of these scales so that they were forced down into the pit, breaking the castings so completely that they were only fit for scrap. It is evident that the force must again have divided when it reached the junction of entries, main east and west. No evidence of flame having passed up the shaft was observed, but, as stated before, much force was exerted at the bottom of hoisting shaft. Large quantities of dust and smoke were emitted from mouth of shaft simultaneously with a dull, rumbling sound that was heard, and which gave the first notice of the explosion to the outside world. In my opinion the moist and wet condition of the shaft destroyed that part of the flame that traveled in this direction. It was thoroughly in evidence that a large body of fire had passed the shaft, traveling into the main west entry for a distance of 300 feet, or to the end of double switch. Beyond this no sign of fire was observed, but the force of the explosion reached the face of the west entry, which was indicated by the blowing out of stoppings, etc. It was on this double switch that the great damage to property occurred. The stables were located here, also the slope engine room, about 100 feet to the rise. As before stated, the flame set fire to the hay and timber in and around the stables, also a tool house. The large falls of slate which had fallen on the switch made it impossible to reach the fire, which had been started, until said falls had been cleared away. Hence the reason that the fires had such hold before work could be begun on them. The break-throughs between main west lower and upper entries were utilized for stables, and it was here that the fire took the greatest hold on coal, burning up onto the upper entry, a distance of 30 feet. Before the fire could be confined or surrounded so that it could not spread, 275 feet of upper entry had started to burn. The fire also traveled up the air course leading from upper entry and into the slope engine room, a distance of 100 feet. The coal on both sides of entries, break-throughs, and air courses was very dry, ignited readily, and made a fierce fire, covering an area

of something like 500 feet long by 10 feet wide. The great heat, coupled with the steam generated from the water used in extinguishing the fire, caused the roof to crumble and fall from a great height. It is safe to say that the roof fell to an average height of 15 feet, and in some places the sides slid in so that the width was not less than 20 feet. This will give an idea of the magnitude of the work encountered in putting out this fire. Work was begun shortly after the explosion occurred, and a large force of men, working eight-hour shifts, worked continuously until about the end of April, covering a period of nearly two months, before this fire was extinguished. Owing to the extreme danger encountered in the putting out of this fire, it was very difficult to get men to do the work, and amongst those who could be induced to work many were impractical and unskilled. On the night of March 19 four men were injured, who were working at the fire, three severely and one slightly. One of them died a few hours after the accident. These men had cleared out the débris sufficient to give them room to place a set of timbers. They were in the act of setting up the timber, when, without the slightest warning, a heavy fall of slate came down on the timbers that had already been placed, knocking out six sets. The fall of slate and timbers fell on three of the men, pinning them down so that they could not move. Through some cause that has never been clearly explained they were not relieved until about twenty minutes had elapsed. The slate that had fallen on these men was almost red hot, and burned into the flesh of those who were lying under it, causing intense pain and suffering to the injured persons, not only at the time but for many weeks afterwards.

The first coal hoisted from this mine after the explosion was on April 29, and this was only from the main east and west entries. Some time in the last half of May the plane was cleared up, and the C and D or second east and west entries were started. June 15 the B or first east was cleaned up, and on July 10 the A or first west entry was clean and began producing coal. At this writing the slope has been cleaned and timbered down to the first entries, G and H, but it will take nearly a month longer to clear the falls from them so that coal can be produced. The workings below the G and H are badly fallen, and considerable water has accumulated. It will be safe to estimate that it will require at least two months longer to clear same; thus it will be about the month of October before the mine can be restored to its normal condition, or as it was at the time the explosion occurred, on the 28th of February. The cost of repairing the damage caused directly and indirectly by the explosion will not be less than \$30,000. So far as the destruction of property is concerned, this is by far the most serious explosion that has ever occurred in the Indian Territory. Hence the reason that so much space has been taken up in trying to impart some of the details to others who were not on the ground.

March 5, 1901. J. Demost, a miner, was fatally injured in room No. 11, off the third west entry in Mine No. 2, operated by D. Edwards & Son, near McAlester, Ind. T., at about 10 o'clock a. m.

On the morning this accident occurred Demost was instructed by the mine foreman to mine no more coal in his room and do no other work there until he had safely propped his roof. This was done because the props had been blown down the night before by a shot. He disobeyed these instructions and went to work in his room, mining coal.

when a fall of slate from the roof occurred, breaking his leg and crushing his back so that he soon afterwards died.

March 8, 1901. William Patton; age, 23; American, colored; machine helper; single.

This accident occurred in room No. 8, off the fifth south entry in Mine No. 9 of the Milby and Dow Coal Company, at Dow, Ind. T., at about 1.30 p. m. Patton was moving his machine to the face of No. 8 room preparatory to making a cutting. While thus engaged, a fall of slate from the roof fell upon his back, crushing him and causing internal injuries resulting in his death.

March 9, 1901. William Chambers; age, 27; American, colored; helper; single.

This accident occurred at No. 5 shaft of the McAlester Coal Company, at Alderson, Ind. T., at about 8 o'clock a. m. Some rails had been lowered in the cage to the bottom of the shaft, and for this purpose the bonnet on the cage was raised. Chambers, in company with two other men, got on the cage at the bottom and signaled to have the cage hoisted without first lowering the bonnet. When about half way up the shaft the bonnet fell down, knocked Chambers off the cage, and he fell to the bottom of the shaft, being instantly killed.

March 19, 1901. Otto Tronnier; age, 19; American; driver; single. William Cameron, jr.; age, 31; Scotch; machine foreman; married. George McMurdo; age, 43; Scotch; night foreman; married. Henry Evans; age, 28; American, colored; miner; married.

This accident happened in the main west air course near the first break-through in Mine No. 5 of the Osage Coal and Mining Company near Krebs, Ind. T., about 11.30 p. m. These four men were all engaged in special work as volunteers in cleaning up the main west entry air course after the big explosion of February 28, 1901, in this mine, and while placing a set of timbers near the first break-through, the roof fell in, throwing out the timbers, falling upon the men and crushing, bruising, and burning them in varying degrees. The slate had become hot from the fire which had been burning since the former explosion and from the steam generated in extinguishing it, and the men were therefore badly burned before they could be removed. Tronnier was very severely burned about the abdomen, though he did not die. William Cameron, jr., was crushed and bruised on the side of his head, left arm broken, and badly bruised and burned all over his body. George McMurdo received a split finger and some slight bruises and burns. Henry Evans was so badly crushed and burned that he died.

March 20, 1901. John Bronco; age, 30; Polish; miner; single.

This accident occurred in room No. 1 of Mine No. 1, operated by the McAlester Coal Company, at Alderson, Ind. T., at about 5 o'clock p. m. Bronco was at work at his regular working place when he was crushed and instantly killed by a fall of rock from the roof. A miner working in a room is required to take care of his own working place, and therefore they exercise their own judgment as to the amount of propping they will do. In this case Bronco's attention had been called to an apparently bad piece of rock in the roof, but he remarked that he knew when the roof was dangerous or not, and exercised his own judgment in continuing to work without further propping.

March 28, 1901. Albert Fields; age, 13; American, colored; car oiler; single.

This accident occurred in No. 5 mine of the McAlester Coal Company, at Alderson, Ind. T., at about 10 o'clock a. m. Fields was near the foot of the shaft, and just as a trip of cars was coming in he started to cross the track. He was warned to look out by other parties, but replied that he knew enough to take care of himself, and continued on across the track just in front of the cars. He apparently misjudged the speed or the distance and was struck by the trip of cars, receiving a broken leg.

March 29, 1901. James Andrews; age, 31; American; miner; single.

This accident occurred in room No. 5, off the second east entry in Mine No. 67 of the Kansas and Texas Coal Company, at Carbon, Ind. T., at about 8 o'clock p. m. This man was burned on the face and hands by flame from a blown-out shot. This mine at this date was not extensively developed, and therefore the shot firers going in in the evening, after the men were out, had but little to do, and they therefore themselves got out very quickly. It seems that some of the miners endeavored to take advantage of this fact and go into the mines in the early evening, after the shot firers were out, to prepare and fire shots of their own, so as to enable them to get a large amount of coal the next day. This was a gross violation of rules, and was always done without the knowledge of the pit boss. In this instance Andrews and another man went in this mine at about 8 o'clock p. m. to fire shots in their rooms. Andrews lit his shots and went out in the entry, about 35 feet distant, where, believing himself safe, he stopped to fill his lamp with oil. The shots went off and one or more of them proved to be windy, blowing out the tamping, and the flame from which rushed down the entry and burned Andrews, as stated.

April 3, 1901. Theodore Schoenfelt; age, 24; American; miner; single.

This accident occurred in room No. 2, off the fifth west entry in Mine No. 2 of the Wilburton Coal and Mining Company, at Wilburton, Ind. T., at about 2 o'clock p. m. This man was at work in his room, mining off a standing shot. The coal was considerably loosened and a neighboring miner called Schoenfelt's attention to the likelihood that it would fall. Schoenfelt was sure, however, and so stated, that the coal was not near giving way, and continued to work without propping or taking other precautions, and was suddenly struck by a heavy fall of coal, resulting in a broken leg.

April 5, 1901. J. H. Price; age, 28; American, colored; miner; single.

This accident occurred in room No. 2, off the top entry main, north of Mine No. 6½ of the Atoka Coal and Mining Company, at Lehigh, Ind. T., at about 4.30 p. m. This man was killed by being caught by a shot and lost his life through his willingness and in an attempt to oblige his friend. The case is rather peculiar, and the facts are given fully, as follows:

W. Butler worked in room No. 2, and as Butler had a child that was very sick at home he requested Joseph Moulton, who worked in No. 3 room, to fire his shots, so that he might get home a little earlier. For some reason not known, Moulton afterwards had asked Mr. Price (who worked in No. 10 room in said entry) to fire Butler's shot, which Price agreed to do. However, a little after 4 o'clock, and just as Butler

had completed tamping his shot, some one started to fire in the entry, and Butler thinking that he had been mistaken in the time and that it was firing time, lit his own shot and retired through the break-through into No. 3 room. It appears that just as Butler got well out of his own room, Price came along and entered No. 2 room from the entry, passing up the roadway in company with another man named Brinkley. Both reached the face, and were in the act of looking for the fuse when the shot which had already been lit by Butler suddenly went off, blowing out about 1½ tons of coal, part of which struck Price about the head, injuring him so severely that he died four hours afterwards. Brinkley, who was standing close to Price, was not injured.

Had the firing not started until the proper time, Butler would not have lit his shot, and Price would have been in no danger when he proceeded to carry out the arrangement entered into between Butler, Moulton, and himself, and a little forethought on the part of Butler or Moulton might have prevented this accident.

April 6, 1901. John Raleigh; age, 50; American; machinist; married.

This man was burned by a small explosion of gas in the ninth west entry of Mine No. 5 of the McAlester Coal Company, at Alderson, Ind. T., about 2 o'clock p. m. He went into a working place which was dead-lined as being dangerous on account of gas, and ignited the gas in this room, resulting in some comparatively slight burns on his face, head, hands, and wrists.

April 8, 1901. Thomas Corano; age, 19; American; driver; single.

This accident happened on A entry between rooms 96 and 97 in Mine No. 11 of the Osage Coal and Mining Company, at Krebs, Ind. T., at about 3.15 p. m. Corano was employed in this mine as a mule driver, his run being along A entry, in connection with two other drivers. On the day of this accident he was coming out with a trip, and while running very rapidly between rooms 96 and 97 his mule slightly shied. Corano, thinking that this was due to a fall of rock, jumped off the car. In doing so he fell, was run over by the car, and suffered a fracture of the collar bone and a dislocation of the right arm, besides some other wounds and bruises. The road where Corano was injured was in good shape and all clear, and his injury was due to a mistake in judgment on his part.

April 12, 1901. Lacardio Bolenzuda; age, 36; Mexican; miner; married.

This man had his legs broken, two ribs broken, one of which punctured his lung, and a severe cut on the face, all resulting from a fall of slate in his working place, which was room No. 5 east in Mine No. 1, operated by the McAlester Coal Company, at Alderson, Ind. T. The accident happened at about 3 o'clock p. m. This accident was due to the fact that Bolenzuda had failed to properly prop the roof of his working place after the firing of shots. He had extra props in his room, but had not put them up for some distance back of the face, and was therefore caught by a heavy fall from the roof.

April 16, 1901. William Grego; age, 33; miner; married. Carl Meizo; age, 17; miner; single. Ben Youcrewski; age, 16; miner; single.

This was a very serious explosion occurring on the fourth slope of the seventh north entry in Mine No. 1 of the McAlester Coal Company, at Hartshorne, Ind. T., which occurred at about 4.30 p. m. on the day named and resulted in the severe burning of all three men, Grego and Meizo being killed, while Youcrewski was very extensively and severely though not fatally burned, and I give below a brief his-

tory of the investigation and examination I made of this mine and into the cause of the explosion immediately after the same occurred:

The explosion originated in what is known as the seventh north entry leading from slope, counting from the surface, or what might be more properly named the second north entry, said entry being only the second lift below the level of the hoisting shaft.

The face of this entry has been driven in a distance of about 3,000 feet from slope, or 3,800 feet from bottom of hoisting shaft. No visible sign of force could be observed till we proceeded within about 500 feet of the face of the entry. At this point a door had been blown down, and between this point and the face of the entry six stopings were blown out; but, all having been repaired temporarily, we had no difficulty in reaching the face. About 500 feet from the face of the entry the main return air course leading from the lower entries joins the lower entry of the second north, and from this point we proceeded to the face on lower entry. No sign of force was visible here. On reaching the entry face (which is only a few feet past the break-through leading to upper entry) we examined for gas, but no trace was found, and we then proceeded to upper entry and tested again for gas, and found just enough to show on the safety lamp. One shot had been prepared in each of this pair of entries, but had not been fired. Both shots were what is termed cutting shots, and were prepared exactly alike, and may be described as follows: Depth of cutting, 2 feet 6 inches; holes drilled, 4 feet 6 inches. In the lower entry a cartridge filled with powder stood at the mouth of drill hole, which had 20 inches of powder in it. You will notice that the drill hole was drilled two feet beyond the back of cutting, and if you place a cartridge of 20 inches of powder in same it will not fill up more than 18 inches of drill hole, which will leave the outer end of the powder 6 inches ahead of the back of the cutting. There is only one conclusion to be arrived at regarding these two shots, namely, they were badly prepared and extremely dangerous to fire.

As these two shots had nothing to do with the explosion they are only described for the purpose of showing what great risk men will take so that a little manual labor may be saved.

From the face of the entries we traveled back on the upper entry between 40 and 50 feet. Here a start had just been made to turn a room—in fact the first shots had been prepared on the day of the explosion, and as I am of the opinion that this is the point where the explosion originated, I will describe the position of shots, etc., by a rough sketch, so that the situation may be more easily understood.

The above sketch shows the position of the two holes that had been prepared in the room just beginning. You will see that a 6-foot hole marked No. 1 had been drilled, beginning at nothing, gripping into the solid coal, till at the back of the hole it was nearly 5 feet on the solid (what is termed a light heel and heavy point), also a hole 4 feet 6 inches was drilled at right angles to entry, marked No. 2. A glance at the sketch will show that the points of the two holes where the powder would be placed are a very short distance apart. No. 1 shot had been fired, blowing off the heel about half the distance of hole. No. 2 shot had not been fired, the tamping remaining in the hole intact. However, on the tamping being drilled out it was found that the space occupied by the powder was vacant, showing that from some cause it had exploded.

After carefully considering the above facts, I have come to the conclusion that when No. 1 shot was fired the powder fractured the coal ahead of the point of hole, making connection with the point of No. 2 hole, the flame ignited the powder in No. 2 hole, and flame of same no doubt rushed through fractures made by No. 1 shot. On the powder of No. 2 shot being ignited, and not being confined owing to the fracture made in coal by the first shot, I am of the opinion that flame thus caused ignited the smoke and dust created by the first shot, and that this was the sole cause of the explosion.

The entire absence of accumulated dust, the very slight traces of gas found, notwithstanding the fact that the ventilation had only been temporarily restored, and the damp condition of the floor, convinces me that the necessary conditions were not present, but that they had to be created, and that they were created in the manner afore described; also the fact that the men injured and killed had worked from 7 o'clock in the morning up to the time of the explosion with open lamps, and that the bodies of the men were found near the point of origin of explosion, shows that no unusual conditions had been observed by them, also that they were in no way alarmed or they would have no doubt retired to a more remote place when they lit their shots.

No. 1 shot was not a safe shot to fire, the heel being too light, but in all probability would not have caused the explosion had it not connected with powder in No. 2 shot. The cause of the explosion may be attributable to the anxiety of the workmen to do their work too hurriedly, and in trying to make powder do work that should be done by hand labor.

April 22, 1901. John Fabry; age, 25; Polander; miner; single.

This accident happened on the slope in Mine No. 1 of the McAlester Coal Company, at Alderson, Ind. T., at about 4 o'clock p. m. Fabry, whose duty it was to switch the cars coming down the slope into the various entries, communicated with the engineer by means of a bell wire, and at the time of this accident he was on the wrong side of the wire and the car that was being switched into the entry, and he had to reach over the car to pull the bell wire. The rope ran out of the sheave, as it sometimes does, in spite of the utmost precaution, and Fabry, being on the wrong side of the rope, as stated, was squeezed between the rope and the side of the entry, which resulted in a severely bruised ankle.

April 23, 1901. Jess Martin; age, 25; American, colored; miner; married.

This is another accident arising from a fall of slate from a roof in the first east room in Slope Mine No. 3 of the McAlester Coal Company, near Alderson, Ind. T., about 10 o'clock a. m. Jess Martin and a butty were working in the room described, and the butty noticed a loose piece of draw slate in the roof over where Martin was working and called Martin's attention to it. Martin sounded it with his pick, and concluded and stated that it was safe, and therefore continued to work without propping, when the slate fell and crushed and injured his back.

April 24, 1901. Stephen J. Rayfor; age, 28; miner; single.

This man was also injured by a fall of rock from the roof, which occurred in room No. 5 off the first west entry in Mine No. 3 of the McAlester Coal Company, at Gowen, Ind. T., at 1 o'clock p. m. Rayfor went into his working place a short time after a shot had been fired therein for the purpose of mining off the shot. He first began setting some props to make the roof secure, and while scraping away some coal on the bottom at a point where he desired to set a prop the loose rock fell from the roof, breaking his left leg and injuring his right shoulder.

April 25, 1901. Joseph Curry; age, 53; Irish; timber man; married.

This accident occurred at the switch on C entry in Mine No. 11 of the Osage Coal and Mining Company, at Krebs, Ind. T., at about 10.30 o'clock a. m. Curry was a timber man and was engaged in making some repairs on the track at the C entry switch, when he says he heard the boss driver call out to him that the trip was coming into that switch. Curry also says that he saw the driver throw the switch to let the cars in, but that his mind was on other matters and he forgot for a few moments all about the trip, which came in and struck him, breaking his left leg. Curry needed only to have moved to one side, which he had ample time to do, to have avoided this injury, which was the result of his fit of absent-mindedness.

April 26, 1901. William Evans; age, 23; Welch; mule driver; single.

Evans was run over by a pit car and had his left leg broken on A entry in No. 11 mine of the Osage Coal and Mining Company, at Krebs,

Ind. T., at about 9.30 a. m. Evans was riding on the front car of the trip which he was bringing out along the A entry on the day of this accident, when for some reason and without any cause whatever he jumped off. He was struck by the second car in the trip and knocked down under the car, which ran over him, breaking his leg and otherwise slightly bruising him.

April 26, 1901. C. M. Hawkins; age, 50; American; car trimmer; married.

This man was instantly killed at mine No. 1 of the Hailey Coal and Mining Company, at Haileyville, Ind. T., at about 2 o'clock p. m. of the above date by falling down the shaft. When Hawkins met his death he was in the act of sending an empty car down the shaft, thinking that the cage was in proper position for him to do so. He had to open the safety gates, and it is surprising that he did not notice while doing this that the cage on the opposite side was up and the one on his side down at the bottom. He pushed the car toward where the cage would have been had it been up on his side, and then as the car toppled over the edge he endeavored to grapple it and hold it back and prevent it from falling down the shaft. In doing this he lost his balance and fell with the car to the bottom, being instantly killed.

April 28, 1901. William Kennedy; age, 45; American; pumper; married.

This accident occurred at the top of the shaft of Mine No. 1 of The McAlester Coal Company at Hartshorne, Ind. T., about 4 o'clock a. m. Kennedy, who was a pumper working at night, came to the top on the cage at about 4 o'clock on the morning of the accident, as usual. The night engineer hoisted the cage a short distance, about 3 feet, above the landing. Kennedy came up from the bottom without any light and when the cage stopped, immediately stepped off without noticing that the cage was not on the level with the landing. He fell and hurt his knee cap, which has since resulted in the necessity for the amputation of his leg.

April 26, 1901. William Mitchell; age, 24; American; driver; single.

This accident occurred in the shaft of Mine No. 7 of the Atoka Coal and Mining Company, at Lehigh, Ind. T., at about 5 o'clock p. m. Mitchell, with others, got on the cage at the bottom to be hoisted to the top. After all were on, the cager ascertaining that they were all right signaled the engineer to hoist, and the cage started to ascend. After ascending a short distance, Mitchell, who was subject to fainting spells or fits, apparently fainted and fell, being caught between the cage and buntons of the shaft. Before the cage could be stopped he was severely crushed so that death resulted shortly afterwards.

April 29, 1901. Dom Wasso (Serak); age, 25; Polander; miner; single. Wylie Clark; age, 28; American; colored; driver; married. Emanuel Taylor; age, 28; American; colored; miner; single. Andrew Pisco; age, 28; Polander; miner; single. Joe Peters (Petrovitch); age, 35; Polander; miner; married. Paoli Tosti; age, 22; Polander; miner; single. Jack Farney; age, 50; Irish; miner; married. William Farney, son of Jack Farney. L. C. Sutton; age, 20; American; miner; single. Pat Woods; age, 16; American; miner; single. William Figenshoe; age, 40; American; miner; married. William Figen-

shoe, jr., son of William Figenshoe. Mat Anderson; age, 50; American; colored; miner; married. Sam Hill; age, 28; American; colored; miner; single. Ed Anderson; age, 18; American; colored; miner; single. Mose Garret; miner; American. Riley Williams; miner; American. Charles Griffin; American; miner.

The above-named men were all injured in a terrific explosion which occurred in Mine No. 5, operated by The McAlester Coal Company at Alderson, Ind. T., on the day named. The first five, viz, Dom Wasso, Wylie Clark, Emanuel Taylor, Andrew Pisco, and Joe Peters, were all dead when their bodies were recovered from the mine. The sixth, viz, Paoli Tosti, was so severely injured that he died on May 2 following. The others were all injured in varying degrees but not fatally. In point of loss of life and number of injured this was the worst explosion of the year, and indeed the worst in the Territory since the great explosion of 1892. I therefore give a brief history of the examination and investigation of the condition of the mine and of the origin and cause of the explosion made immediately after the explosion occurred:

The explosion occurred on the morning of April 29, about 6.50, just when the men were proceeding into the mines to begin their labors. A number had already entered the mines, while others were at the mouth of the shaft and slope ready to go in, when in a moment a rush of wind, carrying with it clouds of dust and debris, suddenly burst from both the mouth of the shaft and the slope. All present realized in a moment that an explosion had taken place, and it was only a short time until the rescuing parties began their hazardous labors of trying to rescue their fellow-men. It will be sufficient for me to say that about 10 o'clock all the men had been reached (except one man, who was not found until 8 p. m. Tuesday).

After the excitement of getting the men out of the mines was over, and the situation could be properly gleaned, it was found that five persons had lost their lives, twelve being more or less injured, four of them rather seriously.

There are two openings in connection with this explosion to be considered. First, the slope situated on the crop line, which has been driven down and connected with the workings of No. 5 shaft, said shaft being located about 3,600 feet in a southern direction from slope and is sunk to a depth of 550 feet, making it about 70 feet deeper than any other shaft in the Indian Territory. Eleven entries have been driven from each side of the slope, running east and west. The workings of these mines are ventilated by a 20-foot fan on the shaft, forcing air into the mines, and a 15-foot fan exhausting air near the mouth of the slope.

Shortly after the men had been taken out of the mines, Mr. S. Guerrier, special agent, Michael Wood, pit boss, and myself proceeded to make an investigation as to the origin, cause, and effect. We entered the mine by the shaft, proceeding along the east entry for a distance of 400 feet, where we reached the bottom or junction of slope; proceeding up the slope we found an abundant current of air traveling on the slope, but, as the stoppings had been blown out, it was not circulating around the working places. No violence or sign of fire was observed until we reached the tenth west entry, excepting three stoppings, which had been blown out between the tenth and eleventh entries.

The door on the mouth of the tenth west entry had been blown to the slope, a distance of 20 feet from its original place. On the east side of slope, and directly opposite the tenth west entry, deposits of charred coal dust were found; like deposits were found on the sides and timbers of slope, and continuing up the slope for a distance of over 600 feet. The door of the ninth west entry had also been blown out to the slope, showing that force had come out said entry. The door of the eighth west entry was blown in, showing that force had been exerted from the slope a short distance above the eighth west entry.

No visible sign could be observed to lead me to believe that the flame had extended much beyond that point; hence we did not continue investigation there. But a short distance above the eighth entry nearly all the stoppings on both sides of the slope had been blown out between the tenth and eighth entries, which disarranged the ventilation; and when we left the line of main slope we had to proceed with great caution on the side track of the tenth west entry. Loaded cars were standing here; also two empty cars. None of these cars had been disturbed, neither had the coal on top of the loaded cars been removed or disturbed, this showing that the explosion was of a rather feeble nature. At this point, however, coked coal dust was

found in greater quantities than at any other place—said coal dust being on the inner ends of cars and inner sides of props; that is, on the end of cars and sides of props next the face, which shows clearly that explosion traveled out this entry.

The ventilation being badly deranged in this entry, no further examination of same was made until the following day. We then proceeded to the ninth west entry, and almost the same conditions, we found, existed as in the tenth west entry, the only difference being that a smaller quantity of coked coal dust was found. Still there was sufficient to show that flame had come out of this entry as well as the tenth.

Further investigation here did not seem prudent till the ventilation was restored, and we did nothing until the following day, when we found the tenth west all clear. We then proceeded to try to locate the point of origination. We traveled in the lower entry, or air course, and found the stoppings between the air course and entries had been blown out toward the air course. At the working face an empty car was standing undisturbed. No gas was found in the upper or lower entries. We examined No. 7 room and found nothing unusual; examined No. 6 room and found that shots had been fired, which had blown out the coal violently, and must have created considerable flame. An examination of the props showed that they were covered with coked coal dust on the side next the face, while on the opposite side of props an almost entire absence of coked coal dust was observed. No. 5 room showed the same conditions.

We then proceeded out, examining the different rooms as we went, but nothing of note was observed until we reached No. 2 room. Here we found one badly prepared shot had been fired, such a shot, in my opinion, as should not have been fired. The hole was drilled about 4 feet; the point of hole was 6 feet 3 inches on the solid. No mining had been done. Flame traveled down this room. An examination leads me to believe that it divided at the mouth of room, part going toward the slope and part traveling up the air course to the ninth entry, traveling over part of this entry and finally making its exit on to the slope.

Those that were killed and injured by the explosion were found between the eighth and tenth entries. Others injured outside of this sphere were mostly injured by the after damps.

After making this examination and considering the different circumstances and conditions observed, I have come to the conclusion that a bad shot must have been fired in the tenth west entry, and in either the second or sixth room. The shots examined in either of these were such as, in my opinion, might cause such an explosion. The probabilities that it was a gas explosion are very remote, for the following reasons:

Had any person fired a body of gas, he could only have done so in the rooms referred to (2 and 6), as one of these points is the starting point of explosion, hence he could not have escaped being burned to a crisp, and would have been found at the point where he ignited the gas. This not being the conditions found, I conclude that it was not a gas explosion, but, as before stated, originated from a blown-out or windy shot.

The only man found in this entry inside of the side track was Joe Peters. He worked in the air course, and was no doubt at work when the explosion occurred. He was afterwards found at the face of No. 6 room, dead, and he was not burned, but had succumbed to the after damps, thus showing that the trouble originated outside of his working face and that in his efforts to escape he had mistaken his way and wandered up No. 6 room.

The reason that so many escaped may be accounted for in the following way: The fans, not being injured, continued the supply of pure air, which speedily removed the after damp. Also, the moist, and some places wet, condition of slope confined the explosion into a small area.

I also noticed that the floor of the tenth west entry was damp, thus showing that they had been recently sprinkled. It is clear that the only persons that could have explained the cause of the explosion are numbered among the dead, and what I have here said is drawn only from examination and, to some extent, supposition.

May 1, 1901. W. H. Hurt; age, 28; American; colored; miner; single.

This accident occurred on the slope in Mine No. 1 of the McAlester Coal Company, near Alderson, Ind. T., at about 7 o'clock a. m. Hurt was loafing on the slope when he ought to have been at work, and was admonished by the pit boss to go to work. While he was still on the slope, however, he was caught by a runaway car. The flying coal from the wrecked car struck him and mashed his left hand

and cut his head in several places. It is a rigid rule of the mine that all the men must be in their working places at 7 o'clock, when the hoisting begins, and this man suffered through his own carelessness in violation of this rule.

May 7, 1901. William Donley; age, 35; American; colored; cager; married.

This accident occurred at the bottom of the shaft in Mine No. 1 of the McAlester Coal Company, at Hartshorne, Ind. T., at about 2 o'clock p. m. Donley's duties as cager required him to stand at the bottom of shaft to signal the engineer when to hoist and lower the cage. When hoisting coal on this day a piece of coal dropped from the top, and, glancing off from the cage, struck him on the head, causing a slight cut.

May 13, 1901. Clayborne Evitt; miner. John Deskins; miner.

These men were burned by a small explosion of gas in room No. 11, off the second east entry of Mine No. 3 on the lease of the Ola Coal and Mining Company, and being operated by W. R. Bishop, at Ola, Ind. T. This accident happened at about 7 o'clock a. m. These men found their working place marked by the fire boss, indicating the presence of a small quantity of gas, and with instructions for them to brush out the gas fully before going in with a naked light. They brushed out the gas, as they thought, but instead of testing the room with a safety lamp they at once entered without precaution with their naked lights. The gas was ignited, and they were burned on the face and hands.

May 14, 1901. O. Brooks; American; miner. William Frazier; American; miner.

This accident is one exactly similar to the one preceding, and occurred in room No. 2, off the third west entry in Mine No. 3, operated by W. R. Bishop, on the lease of the Ola Coal and Mining Company, at Ola, Ind. T., at about 7 o'clock a. m. On going to their working place to commence work on the morning of this day these men found their room marked by the fire boss as indicating the presence of a small body of gas, and it was their business to brush out the gas before entering the room with naked lamps. They brushed out the room as directed, but without testing with a safety lamp as a preliminary caution they entered with naked lamp, ignited the gas, and were burned somewhat severely on the face, hands, arms, and body.

May 17, 1901. Curt Thompson; age, 22; American; pole holder; single.

This accident occurred at the fourth main south parting in Mine No. 1 of the McAlester Coal Company, at Hartshorne, Ind. T., at about 10 o'clock a. m. Two men operate the electric motors used in this mine for hauling in trips of coal to the foot of the shaft, one known as the motorman and the other as the pole holder. Thompson was the pole holder on the motor on the day this accident occurred. They had just come in with a trip of empty cars, and were preparing to make up a trip of loaded cars to bring out. They made a flying switch with the empty cars and ran the motor on to the track where the loaded cars stood. They stopped the motor close to some loaded cars and then proceeded to change the headlight of the motor from one end to the other in readiness for the outward trip. While doing this Thompson,

who was handing the light to the motorman, permitted his leg to hang down over the bumper. Just at this time some more loaded cars were bumped up against the trip or train to which the motor was about to be attached, and Thompson's leg was caught between the bumpers of the motor and the first loaded car and broken.

May 20, 1901. Joseph Crossetti; age, 24; Italian; shot firer; married.

This accident occurred in room No. 93, off the B entry in Mine No. 11 of the Osage Coal and Mining Company, at Krebs, Ind. T., at about 6.30 o'clock p. m. Crossetti went into the mine on the evening of the accident to perform his duties as shot firer. He had fired shots in a number of rooms, and went into 93 with a safety lamp to examine for gas before firing the shots there. In going up into the room his light went out in his safety lamp and he very carelessly struck a match to relight his safety lamp. The flame from the match ignited the gas, and he was burned, but not seriously, on the face and hands.

May 20, 1901. Joe Cozatick; age, 27; Polander; driver and miner; single.

This accident occurred on the first north entry of Mine No. 1 of the McAlester Coal Company, at Hartshorne, Ind. T., about 4 o'clock p. m. Cozatick was a mule driver, but he was allowed to earn additional wages by digging coal after his day's run was over. While engaged in this latter class of work he was injured about the back by a fall of rock from the roof over his working place. His injuries were occasioned either by his negligence and failing to properly and securely prop the roof of his working place, or by one of those unavoidable accidents wherein the injured man had no means of knowing of the existence of danger, or of preventing its occurrence.

May 21, 1901. Amos Lane; age, 23; American; miner; married.

This accident occurred in room No. 3, off the west main entry in Mine No. 5 of the McAlester Coal Company, at Alderson, Ind. T., at 8.45 a. m. Lane went to work on the day of the accident after having fired shots in his working place without first examining and securely propping his roof, with the result that he was struck by a fall of rock, crushing him somewhat, but not seriously.

May 27, 1901. George Richards; age, 22; American; miner; married.

This accident occurred in room No. 26, off the second west entry of Slope Mine No. 3, on the lease of the Wilburton Coal and Mining Company, at Wilburton, Ind. T., operated by Paul Gallagher, and it happened at 11.30 o'clock a. m. Richards was instantly killed by a heavy fall of slate from the roof of his working place. After firing two shots in his room, when he next went in he loaded and sent out three cars of coal, and continued this work instead of first timbering his room, which it was his duty to do, and which was especially required after firing shots therein. He was further warned that his roof was unsafe, but he exercised his own judgment, took his chances, and thereby lost his life.

May 28, 1901. Jesús Díaz; age, 20; Mexican; miner; single.

This accident occurred in the sixth west room, Slope Mine No. 3 of the McAlester Coal Company at Alderson, Ind. T., at about 11.40 a. m. This man was at work loading a car of coal under a roof which was

cracked and loosened, but which he thought was not yet ready to fall. He was struck by a piece of draw slate falling from the roof and received a cut over the left eye and a sprained ankle. He could have avoided this injury by propping his roof, as it was his duty to do.

May 28, 1901. Dom Ciotti; age, 34; Italian; miner; married.

This accident occurred in Slope Mine No. 11, operated by P. Magdalena, under contract with the McAlester Coal Company, the mine being located near Hartshorne, Ind. T. In the entry where Ciotti was at work a shot had been fired, and Ciotti was mining off the coal. While doing so he was struck by a fall of rock from the roof and wounded about the head and had his left leg broken. This accident was caused by the injured man's failure to safely prop and secure the roof of his working place.

May 29, 1901. Albert La Belle; age, 22; American; rope rider; single.

This accident occurred on the slope of Mine No. 1, operated by Perry Brothers at Coalgate, Ind. T., at about 9.45 p. m. La Belle on the day of the accident, in performance of his duties as rope rider, brought up a trip of cars loaded with coal, on the rear of which was a water car. He dumped the coal and left the water car standing only about 3 feet from a knuckle and failed to sprag it. He started down the slope with his empty trip, and soon the loaded water car was in some way also started down and ran away, overtaking La Belle's trip, and in the collision crushed him so severely that he died on the next day. He should, of course, have spragged the water car so that it could not have been moved over the knuckle.

May 29, 1901. L. H. Ramey; age, 54; American; miner; married.

This accident occurred in room No. 8, off the third east entry in Mine No. 3 of the McAlester Coal Company, at Gowen, Ind. T., at about 5 o'clock p. m. After having fired a shot in his room Ramey was going back to fire a second shot, when a piece of rock, known as draw slate, fell from the roof and bruised his left shoulder and back. Ramey had no warning of this danger and was unable to take any precautions against it. This was simply an unavoidable accident.

June 8, 1901. William Rankey; age, 23; Slav; driver; single.

This accident occurred on the second west entry of Mine No. 2 of the Wilburton Coal and Mining Company, at Wilburton, Ind. T., at about 2.30 p. m. Rankey was riding a trip along the entry when his mule commenced kicking. In getting off the car he slipped and fell and the mule started up, pulling one car over Rankey's foot, slightly mashing and bruising it.

June 10, 1901. Frank Hobson; age, 38; American; colored; miner; single. Hugh Thomas; age, 20; American; miner; single. Dave Gonzales; age, 30; Mexican; miner; single.

These three men were injured while in the south cage descending the shaft of Mine No. 5 of the McAlester Coal Company, at Alderson, Ind. T., about 6.30 a. m. These three men, with four others, were descending the shaft in the cage on the morning of the 10th, and when within about 25 feet of the bottom the cage first stopped and then dropped rapidly to the bottom, and three of the men on board the cage

were injured. Hobson had his left leg broken; Thomas was bruised and injured along his right side and right leg, and Gonzales's right knee was sprained, the others being practically unhurt. While one cage is descending the other is ascending, and it is customary for the engineer to keep the engine supplied with steam until the two cages meet about midway down the shaft, when the steam is shut off and the momentum acquired carries the cages to the top and bottom, respectively. In this case, however, the cage stopped some feet distant from the bottom, and when the engineer gave the engine more steam he no doubt gave it a little too much, thus dropping the cage suddenly the remaining distance.

June 11, 1901. Dominic Sessi; age, 24; Poland; miner; single.

This accident happened in room No. 54 of Slope Mine No. 15 of the McAlester Coal Company, at Alderson, Ind. T., at about 10 o'clock a. m. Sessi was injured by a fall of rock from the roof of his working place, which resulted in a cut over his left eye and bruises on the left side of his head and left hand. The piece of rock which fell came from close to the face, and had been undermined by Sessi's own work. He had failed to prop the roof after undermining it and thus the accident occurred.

June 13, 1901. Samuel Patterson; age, 26; American; colored; miner; single.

This accident occurred at the bottom of the shaft of Mine No. 4 of the Southwestern Coal and Improvement Company, at Coalgate, Ind. T., at about 8.15 a. m. On the day of the accident Patterson was working as cager at the bottom of the shaft. He was standing on the south side of the shaft when a car started to run toward the cage seat from the north side. The other cager stationed on the north side of the shaft stopped the car, but Patterson started to run across between the guides to assist him. When he started across the other cage was descending—which he, of course, knew—and was within a short distance from the bottom. As he went under he was caught by the descending cage and crushed and bruised about the face, hips, and body somewhat severely.

June 14, 1901. Hugh Thomas; age, 20; American; miner; single. Roy Thomas; age, 18; American; miner; single.

These two men were both somewhat severely burned about the arms, hands, and upper part of the body while working in a room just off the main west entry of Mine No. 5 of the McAlester Coal Company, at Alderson, Ind. T., at about 2.30 p. m.

June 15, 1901. John Henry Hosten; age, 30; American; miner; married.

This accident occurred in room No. 11 of the second top entry west of Mine No. 2 of the Southwestern Coal and Improvement Company, at Coalgate, Ind. T., at about 8.30 a. m. This man was very severely crushed by a heavy fall of rock from the roof of his working place and died within about two hours after the accident. The fall occurred because of a plot slip in the roof which there was no means of discovering beforehand, and I know of nothing that could have been done to foresee or prevent this accident.

June 19, 1901. W. H. Garrett; age, 19; American; coal dumper; single.

This accident occurred at Mine No. 7 of the Atoka Coal and Mining Company, at Lehigh, Ind. T., at about 7 o'clock a. m. Garrett assisted another workman to dump a loaded trip car which had been left on the tippel when the men ceased work the night before. He then pushed the empty car to the top of the shaft, and without noticing that the cage on that side was not at the top, pushed the car over the edge of the landing and both the car and man dropped to the bottom of the shaft, resulting in Garrett's instant death.

June 20, 1901. George Cook; age, 16; Italian; outside laborer; single.

This accident occurred at Mine No. 3 of the McAlester Coal Company at Gowen, Ind. T., at about 8 o'clock a. m. At this mine the weigh room is on a platform about 16 feet above the ground. Some very heavy test weights, about 50 pounds each, had been used on the scales and were being taken away. The dumpers were throwing the weights on to a pile of slack below. Cook approached the weigh house and started under the platform to get a drink of water, but was warned that they were throwing the weights down and went around instead of under the platform. On his return, however, he walked right back under the platform where he could not be seen by the men above, and just as he came out into view one of the weights was thrown down. It struck him upon the head and fractured his skull.

June 21, 1901. W. F. Keith; age, 30; American; miner; married.

This accident occurred in Mine No. 9 of the Milby and Dow Coal Company at Dow, Ind. T., at about 4 o'clock p. m. Keith was working in a working place in this mine which generally made a little gas. On this occasion he had been out of the room for some little time, resting, and when he returned, instead of first testing with his safety lamp, as he should have done, he walked right in to the face with his naked lamp, igniting the gas and being burned somewhat severely.

June 24, 1901. Jim Ryan; age, 35; English; miner; single.

This accident occurred in room No. 15, off the fourth west entry in Mine No. 3 of the Wilburton Coal and Mining Company at Wilburton, Ind. T. This man was loading a car of coal in his working place when a piece of draw slate fell from the roof and struck his hand, which was on top of the car. His hand was badly mashed. The slate fell without warning, and there was nothing to indicate its dangerous character.

June 28, 1901. D. Ford; age, 22; American; rope rider; single.

This accident occurred along the main north motor line of Mine No. 1 of the McAlester Coal Company at Hartshorne, Ind. T., at about 11 o'clock a. m. Ford, with two other men, was engaged in cleaning up a fall of rock on the motor line of the main north entry. A large piece of rock was resting partially on the ground and partially against the rib, and while these men were engaged in breaking it up a portion of the rock suddenly collapsed and fell upon Ford, fracturing two of his ribs.

June 29, 1901. James Bunch; age, 27; American; miner; married.

This accident occurred on the slope in Mine No. 5 of the McAlester Coal Company at Alderson, Ind. T., about 4.15 o'clock p. m. On this day Bunch and another man each got into an empty car of a trip ascending the slope for the purpose of taking some tools from the bot-

tom up to the tenth west entry. It is the rule in this mine that the men must not ride on the trips except when regular trips are made at the commencement and closing of work for the purpose of lowering and hoisting men, but this rule is one which is often violated, and one which is very easily violated without the knowledge of the rope rider or of anyone else. James Bunch was in the rear car going up and Oscar Bunch in the next car above. At a point just above the tenth west entry the two cars became detached from the rest of the trip and ran rapidly down to the bottom of the slope, about 300 feet. The two men stayed in the cars until they reached the bottom. James Bunch, in the last car, was so severely injured that he died, while the man in the car above him escaped without injury.

Following is the act of Congress for the protection of the lives of miners in the Territories, approved March 3, 1891:

[PUBLIC No. 165.]

An act for the protection of the lives of miners in the Territories.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in each organized and unorganized Territory of the United States wherein are located coal mines, the aggregate annual output of which shall be in excess of one thousand tons per annum, the President shall appoint a mine inspector, who shall hold office until his successor is appointed and qualified. Such inspector shall, before entering upon the discharge of his duties, give bond to the United States in the sum of two thousand dollars, conditioned for the faithful discharge of his duties.

SEC. 2. That no person shall be eligible for appointment as mine inspector under section one of this act who is not either a practical miner or mining engineer and who has not been a resident for at least six months in the Territory for which he shall be appointed; and no person who shall act as land agent, manager, or agent of any mine, or as mining engineer, or be interested in operating any mine in such Territory shall be at the same time an inspector under the provisions of this act.

SEC. 3. That it shall be the duty of the mine inspector provided for in this act to make careful and thorough inspection of each coal mine operated in such Territory, and to report at least annually upon the condition of each coal mine in said Territory with reference to the appliances for the safety of the miners, the number of air or ventilating shafts, the number of shafts or slopes for ingress or egress, the character and condition of the machinery for ventilating such mines, and the quantity of air supplied to the same. Such reports shall be made to the governor of the Territory in which such mines are located and a duplicate thereof forwarded to the Secretary of the Interior, and in the case of an unorganized Territory directly to the Secretary of the Interior.

SEC. 4. That in case the said mine inspector shall report that any coal mine is not properly constructed or not furnished with reasonable and proper machinery and appliances for the safety of the miners and other employees it shall be the duty of the governor of such organized Territory, it shall be the duty of the Secretary of the Interior, to give notice to the owners or managers of said coal mine that the said mine is unsafe and notifying them in what particular the same is unsafe, and requiring them to furnish or provide such additional machinery, slopes, entries, means of escape, ventilation, or other appliances necessary to the safety of the miners and other employees within a period to be in said notice named, and if the same be not furnished as required in such notice it shall be unlawful after the time fixed in such notice for the said owners or managers to operate said mine.

SEC. 5. That in all coal mines in the Territories of the United States the owners or managers shall provide at least two shafts, slopes, or other outlets, separated by natural strata of not less than one hundred and fifty feet in breadth, by which shafts, slopes, or outlets distinct means of ingress and egress shall always be available to the persons employed in said mine. And in case of the failure of any coal mine to be so provided it shall be the duty of the mine inspector to make report of such fact, and thereupon notice shall issue, as provided in section four of this act, and with the same force and effect.

SEC. 6. That the owners or managers of every coal mine at a depth of one hundred feet or more shall provide an adequate amount of ventilation of not less than fifty-five cubic feet of pure air per second, or thirty-three hundred cubic feet per minute, for every fifty men at work in said mine, and in like proportion for a greater number,

which air shall by proper appliances or machinery be forced through such mine to the face of each and every working place, so as to dilute and render harmless and expell therefrom the noxious or poisonous gases; and all workings shall be kept clear of standing gas.

SEC. 7. That any mine owner or manager who shall continue to operate a mine after failure to comply with the requirements of this act and after the expiration of the period named in the notice provided for in section four of this act, shall be deemed guilty of a misdemeanor, and shall be fined not to exceed five hundred dollars.

SEC. 8. That in no case shall a furnace shaft be used or for the purposes of this act be deemed an escape shaft.

SEC. 9. That escape shafts shall be constructed in compliance with the requirements of this act within six months from the date of the passage hereof, unless the time shall be extended by the mine inspector, and in no case shall said time be extended to exceed one year from the passage of this act.

SEC. 10. That a metal speaking tube from the top to the bottom of the shaft or slope shall be provided in all cases, so that conversation may be carried on through the same.

SEC. 11. That an approved safety catch shall be provided and sufficient cover overhead on every carriage used in lowering or hoisting persons. And the mine inspectors shall examine and pass upon the adequacy and safety of all such hoisting apparatus.

SEC. 12. That no child under twelve years of age shall be employed in the underground workings of any mine. And no father or other person shall misrepresent the age of anybody so employed. Any person guilty of violating the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not to exceed one hundred dollars.

SEC. 13. That only experienced and competent and sober men shall be placed in charge of hoisting apparatus or engines. And the maximum number of persons who may ascend or descend upon any cage or hoisting apparatus shall be determined by the mine inspector.

SEC. 14. That it shall be lawful for any inspector to enter and inspect any coal mine in his district and the work and machinery belonging thereto at all reasonable times, but so as not to impede or obstruct the working of the mine; and to make inquiry into the state of the mine, works, and machinery, and the ventilation and mode of lighting the same, and into all matters and things connected with or relating to the safety of the persons employed in or about the same, and especially to make inquiry whether the provisions of this act are complied with; and the owner or agent is hereby required to furnish means necessary for such entry, inspection, examination and inquiry, of which the said inspector shall make an entry in the record in his office, noting the time and material circumstances of the inspection.

SEC. 15. That in all cases of fatal accident a full report thereof shall be made by the mine owner or manager to the mine inspector, said report to be in writing and made within ten days after such death shall have occurred.

SEC. 16. That as a cumulative remedy, in case of the failure of any owner or manager of any mine to comply with the requirements contained in the notice of the governor of such Territory or the Secretary of the Interior, given in pursuance of this act, any court of competent jurisdiction, or the judge of such court in vacation, may, on the application of the mine inspector in the name of the United States and supported by the recommendation of the governor of said Territory or of the Secretary of the Interior, issue an injunction restraining the further operation of such mine until such requirements are complied with, and in order to obtain such injunction no bond shall be required.

SEC. 17. That wherever the term "owner or manager" is used in this act the same shall include lessees or other persons controlling the operation of any mine. And in case of the violation of the provisions of this act by any corporation the managing officers and superintendents, and other managing agents of such corporation, shall be personally liable and shall be punished as provided in act for owners and managers.

SEC. 18. That the mine inspectors provided for in this act shall each receive a salary of two thousand per annum and their actual traveling expenses when engaged in their duties.

SEC. 19. That whenever any organized Territory shall make or has made provision by law for the safe operation of mines within such Territory, and the governor of such Territory shall certify said fact with a copy of the said law to the Secretary of the Interior, then and thereafter the provisions of this act shall no longer be enforced in such organized Territory, but in lieu thereof the statute of such Territory shall be operative in lieu of this act.

Approved March 3, 1891.