64th Ann

Year ending Oct 31, 1885

REPORT OF INSPECTOR.

KNIGHTSVILLE, IND., February 1, 1885.

To His Excellency, ISAAC P. GRAY,
Governor of Indiana:

SIR—In accordance with the statutes relative to mines and mining in Indiana I have the honor to submit (my first annual report) the sixth annual report of the Mine Inspector of Indiana. This report contains the estimated coal production for the year. Also, the capital employed, a list of fatal and non-fatal accidents, the number of scales tested, the number of persons employed in all mines, the name and address of owners and location of all mines in the State that employ ten or more men, with a short description of their general condition, and the improvements made in each mine since I entered upon the duties of the office. Also, such suggestions as I deem of most importance for the improvement of the mining laws. This report is made from October 31, 1884, to November 1, 1885.

Respectfully submitted,

THOMAS MCQUADE,
Inspector of Mines for Indiana.

I am unable to give an accurate statement of either the coal tonnage or capital invested in the State. In the latter part of November, 1885, printed blanks were sent out asking for this information, but a large number were never answered. I have, therefore, been compelled to estimate, which I have done to the best of my ability. I have found this a very difficult task, as I had very little information on either subject. Had my

predecessor turned over any of the records I might have been able to figure more accurately. Below is given the production of coal.

Annual production of coal for the past seven years, from 1879 to 1885, including both years:

1879	1,196,490 tons.
1880	1,550,375 "
1881	1,771,336 "
1882	1,990,000 "
1883	2,560,000 "
1884	2,260,000 "
1885	2,375,000 "

In estimating the coal production for this year I have given it careful consideration. It will be observed that the amount produced is 115,000 tons more than the year 1884. From the fact that there were less strikes of importance than in the previous year, and while business has not been as good as desired, yet the reports of those that filled and returned the blanks sent out by me warrant the above conclusion. In calculating the capital employed I have put the amount at $1,850,000. This may seem large, as it is $100,000 more than reported in any former year, but when the great number of improvements that have been made during this year is taken into consideration, along with the new openings that are now in operation, which cost a tremendous amount of money, it will be found that this estimate is not too large.

Below is given a list of accidents, fatal or otherwise, from November 10, 1884, to October 31, 1885, that have come to my notice. The list here given is as complete as I could make it under the difficulties experienced in getting details. I am almost certain that there is a great number not given here, but all appear that have in any way come to my knowledge. The total number of accidents recorded is thirty-two, seven of which were fatal. It will be observed that almost two-thirds of all the accidents were from falling slate alone. It is presumed that many of these could have been avoided by proper care. But in many mines the roofs are treacherous and liable to fall at any time without warning. There is no doubt, however, that miners, from being habitually accustomed to such danger, become, in many instances, negligent in adopting proper means

of safety. One death in Clay County was caused by a shot blowing through the pillar from an adjoining room, killing the man instantly. The practice of allowing pillars to become so thin as to endanger life in the next room, when a shot is fired, can not be too severely reprimanded. And it does appear that such pillars can not certainly be sufficient to support the superincumbent stratas with safety to the mine and miners. I sincerely hope that mine bosses will give this question of sufficient pillar their earnest attention, so as to prevent the loss of other lives through want of sufficient pillar being left between working places.

Fatal Accidents.

May 4, 1885. William Wallace killed by falling slate in Gartsheire Mine No. 2, owned by Drew & Wasson Coal Company, in Clay County.

August 14. James Donohough, killed by falling slate at Wilson's Mine, owned by Mark Wilson, in Clay County. (Note—This is a small mine, and is not mentioned again in this report.)

August —. Joseph Barrell, killed by falling slate at Bartlett Mine, owned by Brazil Block Coal Company, in Clay County.

August 20. Daniel Adams, killed by falling slate at Whitman Shaft, owned by C. O. Godfrey & Co., in Pike County.

October 7. Henry Lester, killed by falling down No. 3 Shaft, owned by M. M. Freed, in Warrick County.

October 2, 1885. Joseph Wauyek, killed by a shot breaking through the pillar from an adjoining room in the Bartlett Mine, owned by Brazil Block Coal Co., in Clay County.

October 18. John Perry Noel, killed by going back to see a shot that did not go off, when it suddenly exploded, the coal striking him with such force as to produce instantaneous death, at the Nickle Plate, owned by the Jackson Coal Co., Clay County.

Not Fatal.

November 10, 1884. Wm. Brown, injured by falling slate in No. 5 mine, owned by Cable, Wilson & Co., in Daviess County.

November 19, 1884. Wm. Kennedy, squeezed between mine cars at Sulphur Springs Mine, owned by Cable, Wilson & Co., in Daviess County.

November 22, 1884. Nick Gasper, back injured by falling slate at South Branch Mine, owned by Cable, Wilson & Co., Daviess County.

November 24, 1884. George Denning, squeezed by bank cars in the Maple Valley Mines, owned by Cable, Wilson & Co., Daviess County.

January 19, 1885. Mat Atmeyer, injured by falling slate in the South Branch Mine, owned by Cable, Wilson & Co., Daviess County.

February 21, 1885. Patrick Healey, injured by falling slate in the Sulphur Springs Mine, owned by Cable, Wilson & Co., Daviess County.

March 6, 1885. James Thompson, injured by falling slate in Eureka Mine, owned by Cable, Wilson & Co., Daviess County.

March 6, 1885. Wm. Diez, injured by falling slate in No. 5 mine, owned by Cable, Wilson & Co., Daviess County.

March 26, 1885. David Evans, burned by explosion of fire damp in the Pioneer Mine, owned by the Curriesville Coal Co., in Sullivan County.

March 26, 1885. John Crosby, burned by an explosion of fire damp in the Pioneer Mine, owned by the Curriesville Coal Co., in Sullivan County.

April 6, 1885. John Mooney, squeezed by bank cars in the South Branch Mine, owned by Cable, Wilson & Co., in Daviess County.

April 10, 1885. Claude Schwartz, injured by falling slate in the South Branch Mine, owned by Cable, Wilson & Co., Daviess County.

May 20, 1885. L. Reidmaster, squeezed by cars in the South Branch Mine, owned by Cable, Wilson & Co., Daviess County

June 15, 1885. John King, injured in the head by falling coal while working off a shot in the Nickle Plate Mine, owned by Jackson Coal and Mining Co., Clay County.

July 2, 1885. Joseph Siddons, injured by falling down an air shaft which he was sinking at the Peanut mine, owned by Zeller & Sigler, in Clay County.

August 3, 1885. Michael Smith, injured by falling slate in the Sulphur Springs Mine, owned by Cable, Wilson & Co., Daviess County.

August 14, 1885. Thomas Carroll, back injured by falling slate in Abby Mine, owned by Watson & Co., Clay County.

August 17, 1885. John Buddle, injured by falling slate in Maple Valley Mine, owned by Cable, Wilson & Co., Daviess County.

September 9, 1885. Wm. Reilley, squeezed by cars in South Branch Mine, owned by Cable, Wilson & Co., Daviess County.

September 15, 1885. Henry Bengies, leg broken by falling slate at Rogers' mine, owned by Rogers Brothers, in Pike County.

September 17, 1885. Harvey Jennings, spine injured by falling slate at Rogers' mine, owned by Rogers Brothers, in Pike County.

September 22, 1885. James Connors, back injured by falling slate in Phœnix Mine, owned by P. Ehrlich & Co., in Clay County.

October 10, 1885. George Yeager, injured by falling slate in Maple Valley Mine, owned by Cable, Wilson & Co., in Daviess County.

October 31, 1885. Tillman Tyler, collar bone broken by falling coal at Posey's mine, owned by Posey & Montgomery, Pike County.

October —, 1885. John Scott, arm broken by a rock becoming dislocated in an air shaft which he was sinking at the Peanut Mine, owned by Zeller & Sigler, in Clay County.

Scales

Have been provided, with sealed weights, by the Auditor of State.

Since June 11, 1885, to October 31, 1885, twenty-six sets of scales have been tested. Of these, twenty-one are in Clay County, four in Fountain County, and one in Vermillion County. Of the whole number tested, fourteen were found correct and twelve incorrect. Of the twelve that were found incorrect, ten weighed against the men in favor of the company, while two weighed in favor of the men and against the company. Further on is given a short account of each mine. At the conclusion of such accounts is given a statement of how the scales that were tested at the various mines weighed, whether correct or incorrect; if incorrect, how many pounds to the ton, and whether in favor of the company or the men. It is a noticeable fact that of the twelve that were found incorrect, only

two weighed in favor of the men. Of these, each weighed forty pounds to the ton. And of the other ten that were incorrect, some were found that weighed as much as six hundred and fifty pounds to the ton in favor of the company, thus depriving the men of more than one-fourth of their wages. I offer some suggestions for the improvement of the law in regard to scales, which will be found elsewhere in this report.

Ventilation and Gases.

The gases most commonly met with in coal mines are carbonic acid gas, generally known among miners as black damp, carbonic oxide or white damp, carbonated hydrogen or fire damp and sulphurated hydrogen. Of these, the most frequent in the mines of Indiana is carbonic acid or black damp. In Sullivan County fire damp exists, but not in sufficient quantities to necessitate the general use of safty lamps. Mines where it is found should be the best ventilated mines in the State. Being of less specific gravity than atmospheric air it floats near the top of the workings next the roof. Having neither taste nor smell it is difficult to detect. Where it appears in mines that have previously been considered free from it, the experienced miner can, by shading his lamp with his hand, clearly distinguish it when in sufficient quantities, floating upon the air as oil upon water. It exudes from the wall of coal in blowers and comes up in bubbles through the water on the floor of rooms or entries. It has been frequently known to burst forth in large quantities where a concealed body of it has been suddenly met, and liberated in the workings and has fouled the air courses for great distances in a short space of time. In cases of this kind too much care can not be taken to prevent the possibility of an explosion with all the accompanying horrors of such a disaster. Persons inhaling the gas at the time an explosion takes place and drawing the flame into their lungs never recover, even though the explosion be ever so slight. After an explosion and the slaughter and havoc occasioned thereby comes the still more dangerous after damp. Nothing can live in it and those whom the explosion has spared make haste to get to a place of safty. With stoppings, doors and bradishes destroyed, with the courses of the air current changed, and the current itself annihilated, compelled to grope about in the dark, the poor

miner is as liable to rush headlong into danger as to escape from that which surrounds him. No person who has not witnessed the devastation caused by explosions of fire damp can form any idea of the immense and terrible power for destruction that lies lurking in the hidden recesses and dark corners of the under-ground working where it is known to exist. Too great care can not be exercised in mines where it is found to prevent explosions; competent bosses should be employed and the strictest care and closest attention should be exercised in all mines where this dangerous gas is known to exist. I regret to say that this precaution spoken of here is not more generally observed in our mines where this gas is found. Great improvement in this direction should be made in Indiana. In my next report I hope that I will be able to say that the mines in Indiana that give off fire damp will compare favorably with any mines in any of her sister States. As before stated the gas most frequently met with in the mines of Indiana is carbonic acid or black damp. This gas is readily known when met with, as the lamp burns feebly, and where it exists in sufficient quantities it is extinguished. It is produced by the breathing of men and animals in the mines, and by the combustion of lamps and powder. It generates most freely in old and abandoned workings. All old workings should, if possible, be bradished off from the new work so that this gas may be prevented from escaping and mixing with the purer air circulating through the working parts of the mine. In working a new mine in proximity to one that has been worked out, great care should be exercised to avoid breaking through to the old works and liberating the gases that may have been accumulated therein. In the ordinary course of ventilation, the fresh air from the outside becomes sufficiently contaminated before going into the outlet without being further poisoned from causes that from most cases can be avoided at little or no expense. This gas is heavier than air and lies on the floor of the mines. From its weight and inertia it is difficult to remove when it is allowed to accumulate in any great quantity. Carbonic oxide or white damp is also found in coal mines, although, so far, but very little of it has been found in the mines of this State. It is rather lighter than air. Lamps burn well where it exists, and the miner is frequently overcome by dizziness or fainting before he is aware of its presence.

Sulphurated hydrogen is somewhat heavier than air and is thrown off by decomposition in old workings, especially in veins where much sulpher exists in the coal. It is readily distinguished by its odor, resembling decayed egg.

Natural Ventilation.

Having thus briefly considered the nature of the gases to contend with in coal mining, let us now consider the means for removing them. There are two general methods of ventilation, viz.: natural and artificial. And while natural means can not be relied upon with any certainty, yet many of them still adhere to this "trust-to-luck" system. The theory of ventilation by natural forces is, that the air in the mine becomes rarified and heated to a greater degree than the air outside, will rise through the air shaft or outlet and its place will be supplied with fresh air at the inlet. This theory is entirely correct in cold weather. On hot, close and sultry days the course of the air is reversed, and the outlet draws down, and during days of variable external temperature the air in such mines goes backward and forward, or as the miners say, "baffles," so that but little ventilation ensues under ordinary circumstances. And where gases do not exist this may afford enough air for a few men in winter, but in no case will it do in summer. In one mine I visited late in the fall, when the weather was pretty cold one could tell whether the wind rose or fell outside over the air shaft by the increased current in the mine below. Where black damp is found in any quantities it is safe to say it can not be removed by natural ventilation.

Artificial Ventilation.

This may be divided into furnace and mechanical ventilation. Of these the furnace is the most generally in use in Indiana, and the results obtained are, in most cases, satisfactory. In many instances the furnace is entirely inadequate in size for the duty demanded of it. A furnace requires constant attention, and the neglect of the fireman in keeping up the fire is soon apparent in the decreased volume of air circulating in the mine, and the air current will fluctuate more or less from this cause. Better results are obtained from furnaces in deep mines

than in shallow ones, owing to the increased hight of the volume of rarified air ascending from the pit. In erecting furnaces care is not always taken to make them large enough to accommodate the increasing wants of the mine consequent upon its future development, and very frequently the usefulness of a furnace is impaired by the up-cast shaft being smaller in sectional area than the in-take to the furnace. It can not be expected that air after being increased to double its volume by passing over the furnace fire can be conducted with the same facility through an opening smaller than it occupies when cold and condensed. Air shafts should, in all cases, be equal in area to the return air-course of the mine. Air courses have been found that vary in size at different points, thus increasing the friction and retarding the current. To be safe, the practical working capacity of an air course should be calculated at the point of its smallest area. When the pump shaft is used, or air shaft, the large timber braces for the column all interfere with the current and lessen the capacity of the shaft. These braces increase the friction on the air to a much greater extent than many suppose. This matter of friction is often lost sight of by many bosses, and does not sufficiently enter into their calculations of the resistance to be overcome to insure proper ventilation. In fact, eight or nine-tenths of the power employed in ventilating mines is consumed in overcoming frictional resistance, while the remaining one or two-tenths do the actual work of ventilation. Hence, it is proper to take advantage of every circumstance to reduce to the minimum this resistance. Each air-way should be of the same area throughout, and abrupt turns in the current should be avoided if possible. The sides of air courses should be as smooth as the nature of the vein will permit, and no obstruction, such as props or piles of slate, be permitted in them. All of these, and many other difficulties, natural and artificial, stand in the way of proper ventilation of mines. The question arises, how are they to be overcome? While the furnace is in the ascendency in this State there are two strong reasons against its use. The first is the danger in mines generating fire damps in passing the current over the flame of the furnace and exploding the gas with which it may be charged. This danger can be avoided by dumb-drifts or openings, by which the air of the mines passes into the air-shaft beyond the fire. It is question-

able whether this rush of cool air into the hot air of the shaft does not by lowering its temperature decrease the power of the furnace.

Another objection is, were the buildings on the top of the hoisting-shaft to take fire, the smoke would draw down and go directly to the air-shaft. In this case the stythe, or, in case of an explosion, the after-damp, would render moments precious, and no time to be lost in rescuing the men. With these objections to the furnace as a ventilator, we will now consider what are our resources in the way of mechanical ventilation.

Mechanical Ventilation.

There are various contrivances for ventilating a mine by mechanical means, such as steam jets, the fan, and several others not necessary to mention. In some mines in the State the steam jet is used to supply the mines with air, and in some instances where but few persons are employed in the mines there is all the air that is required, yet it would prove wholly insufficient in any of the large mines in the State. The fan has proved to be the best and most efficient mechanical ventilator yet introduced. Of these we have a variety of different kinds in use in the State. On my rounds I have noticed none that give as good general satisfaction as the Crawford & McCummon fans, manufactured at Brazil, Ind. It is scarcely necessary for me to go into lengthy details regarding fans, but before leaving the subject I feel that I ought to say something in favor of their general adoption, as I was always of the opinion the fan should be more generally used. The capacity of a fan can be readily increased to conform to the increased needs of a mine by simply increasing the speed at which it runs. In this it has the advantage of the furnace which can only be increased in power by tearing out and enlarging. The fan is not dependent on the fireman as is the furnace for its regular working. Once attach a governor to the fan engine and it works along at a regular speed, requiring no attention but to lubricate. Where a fan can be placed contiguous to the hoisting shaft, the steam to run it can be obtained from the boiler of the hoisting engine. Where this circumstance exists the economy of the fan is self-evident, as it can be run without extra expense of an attendant, and will save the coal which a furnace would

consume. In other words the ventilating of such mines would cost only the oil required for lubricating, and the necessary wear and tear. Fans are gradually being introduced throughout the State, but being a new idea to many they are not being adopted as readily as is desirable. The operators, whose mines are worked by a shaft, need a fan that can be used either as an exhaust or as a forcing fan. This is because the strong current produced by an exhaust fan in going down the hoisting shaft freezes the water coming out of the strata, and thus causing great trouble in hoisting coal and other things out of the mine. When the air is forced down the air-shaft the warm air presses up the hoisting shaft, and to a certain extent prevents freezing. There are several varieties of fans in use in Indiana at present, and many are so built as to be reversible in their action if so desired. The great objection, and I may add the only one, is its first cost, which has generally been in excess of the furnace. No one can question its greater efficiency. My attention has recently been called to a complete fan made in our own State, and the makers claim that where the hoisting boilers can be nsed for steam the fan, with an engine to run it, can be erected with very little more cost than an ordinary furnace. If such a fan can be erected at but little more cost than a furnace, as a matter of economy to operators and safety to miners it should recommend itself to all.

Condition of Trade—Labor Troubles, Etc.

The coal trade during the past year has been in a very satisfactory condition, considering the depression in other business. In the great block coal district of Clay County work has been generally good with no strikes or troubles of any kind. The contracts spoken of in my predecessor's report for 1884 are all at an end, and the men are now working at an average of eighty cents per ton throughout the block coal district. In the bituminous districts the question of reductions in prices of mining being agitated by the operators, and objections being raised by the men, the natural consequences were labor troubles, and a number of small strikes and local difficulties ensued.

Strikes.

While there have been strikes in Parke, Owen, Greene, Knox and Vanderburgh Counties, none are deemed of sufficient importance to deserve special notice, except the strike in Parke County—mines Nos. 3 and 4, operated by the Parke County Coal Company. This strike was against a reduction of ten cents on the ton offered by the operators on the first of May. The men after being out three months were compelled to accept the operators' terms and return to work. There were quite a number, however, that would not be allowed to return, as their places had been given to colored men who were brought here from Virginia and other States for the purpose of taking the places of the white men and thus break the strike. Quite a number of those colored men had never worked in mines before, and they proved to be very hard to manage; and of very little account to mine coal. The Company's bank bosses were very tired of them by the time the white men had consented to return to work (although the colored men had been at work but a short time), and began to make arrangements for their removal as fast as they could find an excuse for letting them go. I do not know how many colored men are now at work for this Company, but I am certain the number must be small, as compared with the number that was brought there in July. This statement should serve to warn all persons against taking the places of men while on a strike. I have noticed it on many occasions where scabs took the places of men who were out on a strike, when the strike was ended the operator would have no further use for them.

While on the subject of strikes, I would say that they are always to be deplored. In whatever way they are viewed they are always bad for the men engaged in them, and very often they are disastrous to the company. In my judgment it would be better for all concerned if a kindly feeling was cultivated between employer and employed. If reason took the place of prejudice they could enter into one another's grievances and discuss them in a friendly spirit, not as beligerants on the point of declaring war, but as men who felt that the prosperity of both parties depends on the discretion and justice of each. I am pleased to be able to state that steps are now being taken by both operators and men, in not only this State, but also in

Ohio, Pennsylvania, Illinois and other States, to do away with strikes. At this writing, January, 1886, two meetings have been held, one in Chicago and another in Pittsburg, in which both parties participated. At the Chicago meeting everything passed off quite harmoniously, and the meeting, after discussing the best means to be adopted to gain the desired end, adjourned to meet again in Pittsburg on December 15. The operators and men met again, as per previous agreement, in Pittsburg, and after lengthy discussion a scale of prices to be paid for mining coal was offered by the miners. This scale was to go into effect May 1, 1886, to hold good until May 1, 1887. In this scale Indiana block coal was rated at eighty cents per ton and bituminous coal sixty-five and seventy-five cents a ton, but without coming to any definite conclusion regarding the price the meeting adjourned to meet again in Columbus, O., February 3, 1886, at which all expect that the price of mining for the year 1886 will be determined upon; this is as it should be. I hope and confidently expect that this will in a great measure do away with strikes.

The Fifty-Fourth General Assembly passed some amendments to the mining law, and thinking they would be of interest I insert them here.

AN ACT providing the means for securing the health and safety of persons employed in coal mines, providing penalty for the violation thereof, and repealing all laws and parts of laws in conflict therewith.

[APPROVED MARCH 5, 1885.]

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana*, That it shall not be lawful for any owner, agent or operator to allow more than ten persons to work in any mine, shaft, slope or drift in every twenty-four hours, after five thousand square yards have been excavated, until the second outlet shall have been made. The said outlet or manway shall be separated from the main hoisting-shaft by at least one hundred feet in width of natural strata, and shall be available at all times to all employes engaged in the mines, and that for every shaft used as a manway there shall be provided stairways at an angle of not more than sixty degrees with landings at easy and convenient distances and with guard-rails attached to each stairs from the top to the bottom of the same. The gangways or traveling roads to said outlets shall be not less than four feet high and three feet wide, and shall be kept as

free from water as average hauling roads in mines. All water coming from the surface or out of the strata in the shaft shall be conducted by rings, or otherwise to be prevented from falling down the shaft so as to wet persons who are ascending or descending the stairway of the shaft. The Mine Inspector shall see that the provisions of this section are complied with.

SEC. 2. Breaks-through or airways shall be made in every room at least every seventy-five feet, and all breaks-through or airways, except those last made near the working faces of the mine, shall be closed up and made air tight by braddish trap-doors or otherwise. The doors used in assisting or directing the ventilation of the mines shall be so hung and adjusted that they will close themselves, or be supplied with springs or pulleys so that they can not be left standing open, nor shall any driver or other person, by props or otherwise, cause the same to stand open. Air-courses shall be driven properly adjoining all entries and as nearly parallel thereto as may be, such air-courses not to exceed such width as will render them safe, with sufficient pillar of coal left between them to secure the roof from falling on account of weight of the superincumbent strata forming the roof over the coal seam.

SEC. 3. The owner, agent or operator of any coal mine shall keep a sufficient supply of timber at the mine so that the workmen may, at all times, be able to properly secure the workings from caving in; and the agent, owner or operator shall deliver, when selected, all props (of proper length) and timbers to the rooms of the workmen when needed and required.

SEC. 4. Before a mine, or any part of a mine, that adjoins other lands is abandoned, the owner or agent shall make a survey showing the farthest extremity of the entries or rooms worked in such mine toward the lines of adjoining lands, and, also, to have the mine properly staked on the surface, and a map thereof made and filed within thirty days thereafter, at the office of the County Recorder in the county where such mine is located. Said map shall have attached thereto the affidavit of the mining engineer making the map, and of the mine boss in charge of the underground workings of said mine. Such map shall be properly labeled and filed by the Recorder and be preserved as a part of the record of the land on which such mines are located, and the Recorder shall receive for such filing, from said owner or agent, a fee of fifty cents.

SEC. 5. Approved safety catchers shall be attached to every cage used for the purpose of hoisting or lowering persons.

SEC. 6. Miners' bosses shall visit their miners, in their working places, at least once every day, where any number not less than ten nor more than fifty miners are employed, and as often as once every two days where more than fifty miners are employed. Any person violating the provisions of this act shall be deemed guilty of a misdemeanor and, upon conviction, shall be fined in any sum not less than ten nor more than five hundred dollars.

SEC. 7. All laws and parts of laws in conflict herewith are hereby repealed.

In addition to the above, two hundred dollars was appropriated for the transportation of sealed weights used in testing scales for the fiscal year 1886, beginning the 1st day of November, 1885, and ending the 31st day of October, 1886.

AMENDMENTS TO THE MINING LAW.

I would suggest several amendments to the laws on the subject of Mines and Mining, which I think should be made in order to more fully carry out the evident intention of the laws as they were originally passed.

First. I would suggest that a place should be provided by law where the Inspector should keep his office, and the place so fixed should be of easy access to the different mines of the State. The law should provide for the keeping of all records, statistics and reports in the office, and by that means a collection of such things could be made that would be of value to the State, and would add very greatly to the usefulness and efficiency of the office. The law should provide that each Inspector should turn over to his successor all records, statistics, papers and reports connected with the office, in order that they could be preserved. Under the present law the Inspector retiring from office has no place designated for him to place the records, papers, statistics and reports belonging to the office, and he simply holds them for his own use, when they should be for the use of the State. On taking the office of Inspector I received nothing whatever from my predecessor by which I could get an idea of what had been done by him, and no complete records, even, of the mine owners of the State, and upon

assuming the duties of the office it was as though it had just been created. Nothing had been preserved for the use of the State. If there had been a law providing for the keeping of an office, and an appropriation necessary for its expenses, it seems to me that it would have been of great benefit, and something could have been saved of substantial value to the State.

Second. I would suggest that the law should be so amended as to require the owners of mines, under penalties for failure sufficient to insure them to report, all accidents and deaths occurring in the mines to the Inspector. The mine owners should also be compelled to furnish the Inspector the aggregate yearly production in tons, of each mine, also capital invested. Under the present law the Inspector is required to make such report, and there is no way of ascertaining such information except by inquiry at the office of mining companies, which office is sometimes out of the State; and to a number of inquiries sent by me for such information I have received but few replies, and am, therefore, unable to give correctly such information.

Third. Section 5477 of the Revised Statutes of 1881 provides that no boys under the age of fourteen years shall be employed to work in the mines of this State, but there is no means provided of ascertaining the age of such boys. Complaints are frequently made that such restricted boys are employed in the mines, but I have no means of determining their age except by inquiry of the parents or other parties who are suffering them to work, and who are interested in deceiving all persons as to their age. Mine bosses usually take the statements of those interested parties as conclusive, and make no further inquiry. Therefore, I would suggest that all boys now at work in the mines of this State, or who may hereafter be employed in said mines, present (to the mine boss in whose employ they are or into whose employ they wish to enter) an affidavit of their respective ages. Said affidavit to be furnished the Mine Inspector (by the mine boss) when called for. And penalty should be provided for violations of same.

Fourth. Section 5480 of the Revised Statutes of 1881, as amended by the act of March 3, 1883, provides for the inspection of scales at the mines, and if found to be incorrect, that notice to the owner or agent be given that the same are incorrect, and after such notice it is made unlawful for any person or

agent to use, or suffer the same to be used, until they are adjusted so as to give the true and correct weight. This provision is no protection to the miners against dishonest employers, as the law simply provides for notice to the owners of mines of the incorrectness of scales, and then provides for their correct adjustment, but fails to provide for their being kept right, and makes no provision for punishment in case they are found wrong a second time. I suggest that the portion of the law which provides punishment after notice *only* should be repealed, and that penalties be provided for not keeping the scales right at *all times*, and under *all circumstances* when the men are at work and coal is to be weighed. This question of just weight has been brought very forcibly to my mind, and I think that there ought to be a stringent measure passed by our next Legislature, which will enable the miners to get paid for all coal which is sent out of the mines by them. In some instances the company's weighman is instructed by the bank boss in charge of the mine to make the flat cars hold out in weight against all losses they may sustain from the time they are loaded at the mine until they arrive at their destination (meaning, of course, that more coal should be taken from the miner), with a view of getting for the miner what actually belongs to him. I suggest the passage of a law similar to the one now in force in Illinois, requiring men that are employed for the purpose of weighing coal to be sworn, by some officer authorized to administer oaths, before entering upon his duties as weighman, and any one knowingly disregarding such oath should be regarded as a perjurer and punished accordingly.

Fifth. That section 3 of the act of the Fifty-fourth General Assembly, relative to mines and mining, approved March 6, 1885, be amended by striking out the words "when selected," making the section read as follows:

"SEC. 3. The owner, agent or operator of any coal mine shall keep a sufficient supply of timber at the mine so that the workmen may, at all times, be able to properly secure the workings from caving in, and the agent, owner, or operator shall deliver all props and timbers, of proper lengths, to the rooms of the workmen, when needed and required."

I now give a short description of each mine that has at any time during the year employed ten or more men:

CLAY COUNTY.

No. 3 Mine,

Owned by the Brazil Block Coal Co., is located about one-half mile west of the little town of Cardonia. This mine was inspected four times. At the first inspection it was found in a very bad condition. I offered some suggestions toward the improvement of the mine, and after allowing time to do the work I again went to the mine only to find it in a worse condition than it was at first. But there had been a change in bank bosses. The new boss seemed very anxious to improve the mine, and after allowing him time to do the work I again visited it and found that the new man had improved the mine, and on visiting it a few days after I found that there was a good current of air in circulation around the entire mine. This mine is an old one and has been working nearly fifteen years. It is almost worked out, and will not be worked after January 1, 1886. I tested the scales at this mine and found them to weigh six hundred and fifty pounds in favor of the company. On going to test them the second time I found them correct.

No. 5 Mine

Is also owned by Brazil Block Coal Co., and is located about three hundred yards west of No. 3. I visited this mine twice and found it to be in good condition, excepting one entry on south side of the mine, which had four men in it. Those men were short of air for want of a door. I tested the scales at this mine and they were weighing eighty pounds to the ton in favor of the company.

Abby Mine,

Owned by T. Watson & Co., is located one mile west of Cardonia. On first inspection the air was found to be very bad; in fact, there was no air in the mine; but the company erected a fan as soon as they had completed the engine house and dump building over the shaft, and now have an abundance of air. The shaft is also completed and they are hoisting coal out of it instead of the drift used last winter. They are driving a tunnel from the seam now worked, to the one above, which is about completed. The scales at this mine were tested three times, twice found to be correct, but the third time were found to be weighing eighty pounds to the ton in favor of the company.

Hancock Mine,

Owned by Brazil Block Coal Co., is located three miles southeast of Knightsville, on the South Branch of the T. H. & I. R. R. This mine has been greatly improved during the year. They have driven several cross-cuts, thereby shortening the distance the air had to travel, and making it much purer. There is a large quantity of water to contend with in this mine, which is a great drawback to good air and roads. They have put in a stairway in the escapement shaft, as required by law. I tested their scales twice; the first time they were found to weigh in favor of the company, forty pounds to the ton. The second time they were found correct.

Briar Hill,

Owned by Brazil Block Coal Co., was worked out and abandoned in June, 1885.

Chicago,

Located at Carbon and owned by Brazil Block Coal Co. The first visit I made to this mine it was ventilated by a fan, which was not producing enough air for the number of persons engaged in the mine. I objected to this, and during the summer months the company sunk another air shaft and put up a new fan, which produces about twenty thousand cubic feet per minute. On my last visit they had been changing some of the air courses in some parts of the mine and had not got all of their stoppings completed, and consequently some parts of the mine were short of air.

Morris Mine,

Is located just north of the city of Brazil, and owned by the Brazil Block Coal Co.; was inspected twice. This mine is ventilated by a fan, which is located about a quarter of a mile from the shaft. The air has to travel over a large amount of old works, and as a consequence is not as pure as it would be if it had a shorter distance to travel. This fan is also used to air the Bartlett shaft, belonging to the same company; both are old mines. There were two men lost their lives in the Bartlett mine during the year, one by falling slate, the other by shot breaking through the pillar from an adjoining room. I tested the scales and found them correct.

Campbell Mine,

Owned by the Brazil Block Coal Co., and is located about a quarter of a mile north of the Morris mine; was visited twice and found in good condition. On the east side they allow some air to escape to the Morris, so as to better ventilate that mine. I tested the scales at this mine and found them weighing two hundred and fifty pounds to the ton in favor of the company.

Gartsherre No. 1,

Owned by Drew & Wasson Coal Co., located on the North Branch of the T. H. & I. R. R., and is about one and a half miles north of Knightsville. On my first visit to the mine the air shaft was frozen almost solid, allowing only three thousand feet of air to come from a fan which should have produced at the very least five times that amount. The boss put a man to cut the ice out of the shaft, and when I returned the second time I found there was a large quantity of the air that should have gone to the men in the bottom vein escaping in the old works of the top vein, and that parts of the mine had no air in circulation. At my request the boss changed the men that were working in the worst places, and put men to work bradishing the leaks in the top vein. I tested the scales at this mine and found them correct.

Gartsherre No. 2,

Is also owned by the Drew & Wasson Coal Co., and is located one mile north of Harmony, on the Harmony branch of the T. H. & I. R. R. The two seams, I and J, are worked in this mine. I visited the mine four times during the year. The first time, while I found the fan produced enough air for all purposes, yet it did not reach the men, it being allowed to escape and return to the up-cast before it reached them. On my second visit I found the condition of the mine steadily growing worse. I then asked that another air shaft be put down and a fan or a furnace put in. The Company finally put down the air shaft and erected another fan. I have not been through the mine since the new fan has been erected, but I have very good reason to believe that there is plenty of air in circulation in the mine now. I tested the scales and found one set correct,

which is used in weighing coal loaded in box cars. The scales used for weighing coal loaded in flat cars was found to weigh eighty pounds to the ton in favor of the company.

Crawford's Shaft.

This mine is owned by the Crawford Coal Company, and is located one-half mile southeast of Gartsherre No. 1. The two seams I and J are being worked in this mine; the top seam, or coal I, is almost worked out, and they have just begun to work the bottom vein, or coal J. I visited the mine twice. The first time the mine was short of air on both sides, although there was enough produced by the fan to allow every person working therein one hundred cubic feet per minute, but the air courses were filled up with slate to such an extent that the air could not travel. The pillar between the main entry and air course on the south side was all crushed to pieces and so thin that the air from the fan was escaping through the seams of the coal and was returning to the upcast, leaving the men on the south side with very little air. On the second visit I found the mine in much the same condition, and upon going through the air courses I found several places that I could scarcely get through. The boss put men to work immediately to clean and timber the air courses, and also to close up the seams of the coal through which the air was escaping. During the year they have put safety catches on their cages and a stairway in their escapement shaft. I tested the scales at this mine twice; once I found them weighing eighty pounds to the ton in favor of the company, the next time forty pounds to the ton in favor of the men.

Star.

This mine is now owned by Zeller & Sigler, formerly by the Stevens Coal & Mining Co.; is located one and one-half miles north of Harmony, and was visited twice. The first time it was in a very bad condition; the new company had just taken charge and were cleaning it up, and had a few men at work. The north side had very little air, and the south side was in the same condition, but by diligent work they have succeeded in getting a good current of air in circulation around the entire mine. To accomplish this the company had to take

a skip off the pillar on the north side to allow the air to travel where it had been completely shut off by a fall of slate. On the south side they have driven the main entry through a fault at a great expense, which enables them to circulate the air around the entire mine. They have also put down an escapement shaft and put in a stairway as required by law. I tested the scales at this mine and found them correct.

Peanut,

Owned by Zeller & Sigler, formerly Andrew Weaver & Co., located one-quarter of a mile southwest of the town of Knightsville. This mine was visited twice the first time, and, also, the second. It was found in bad condition. The mine is worked quite extensively, and was depending entirely on a steam jet for ventilation. Shortly after my first visit this mine was shut down, there being no air for the men to work with, the company intending to sink an air and escapement shaft before again resuming operations. While at work on this shaft the mine boss came very near losing his life by a large stone becoming dislocated in the side of the shaft and falling upon him, breaking his arm and otherwise injuring him. The company then let the sinking of the shaft by contract to Mr. Joseph Siddons, who, on the second day after starting to work, received serious injuries from falling down the air shaft, breaking his leg and injuring him internally. The company then decided to do nothing more at the sinking of the shaft until the bank boss got well. Acting on this conclusion, they did not have the fan in operation when they resumed work. However, they have completed the erection of the fan now, and although I have not visited the mine since, the fan erected should produce enough air for the number of persons employed in the mine. I tested the scales and found them to weigh correct.

Nickel-Plate.

This mine is owned by the Jackson Coal and Mining Co., and is located one and a half miles north of Knightsville, on the north branch of the T. H. & I. Railroad. The two seams, I and J, are worked here (better known as the top and bottom seams). The top seam is worked at night and the bottom seam in daytime. This mine was visited twice. The first visit I made I

found many parts of the mine in very bad condition. Some entries were driven without air courses, and in some parts of the mine the bradishes were sadly neglected. This state of things I of course objected to, and after receiving assurances from the mine boss that the wrongs would be righted within as short a time as possible, I went away, and on returning the second time I found all the promises made on my first visit fulfilled, and an escapement was almost completed with stairs into the top vein. Since then they have completed the escapement shaft and put on Winnenour's patent safety catches on the cages. On my last visit the general condition of the mine was good. I tested the scales and found them weighing five hundred pounds to the ton in favor of the company.

Centennial,

Owned by C. B. Reddie, is located about one and a quarter miles south of Brazil, and is not operated on a very extensive plan, as they have no switch and depend altogether on local trade. The mine is kept in fair condition, and is ventilated by a furnace.

Phœnix,

Owned by P. Ehrlich & Co., is located five miles south of Brazil, on the south branch of the T. H. & I. R. R. This mine was visited twice. On my first visit I found it in a very bad condition, one entry having twelve men in it, and no air in circulation. The mine was stopped in a few days after and did not resume work for about three months. On my second visit I found the mine somewhat improved, with parts of it still bad. I tested the scales and found them correct.

South Slope,

Owned by the same company; located about two hundred yards north of Phœnix mine; was visited twice. On my first visit I found that the fan did not produce enough air for the number of persons employed in the mine, and what air there was, was sadly neglected, there being several doors needed in several parts of the mine. On my second visit I did not go into the mine, as the dump-building and engine-room had burned

down and there was no one at work. They are now rebuilding the dump-building, and will resume work about January 1, 1886. I tested the scales at this mine and found them weighing one hundred and fifty pounds to the ton in favor of the company.

Newburg,

Owned by P. Ehrlich & Co., is located in the town of Newburg, on the T. H. & I. R. R. This is an old mine and is nearly worked out. Visited twice, and found to be in fair condition on both visits. There is a large volume of air going around the entire works, and by the time it returns to the up-cast is full of black damp. It would be much better if the current of air was split.

Wheeler.

This mine is owned by W. W. Risher, formerly Brighton & Peters, and is also located near the town of Newburg. I visited the mine twice; first time in fair condition. The second time I could not get down, as they were not at work that day.

Staunton.

This mine is owned by Joseph Summers, and is located west of Newburg. This mine was visited twice, and on my first visit was found in very bad condition. On my second visit I could not get down, as they were not working that day.

Burgherville.

This mine is owned by Samuel Pryer, and is located one-half mile west of Newburg, on the line of the T. H. & I. R. R.; was visited twice. The first time it was in very bad condition, but on my second visit they had succeeded in getting an entry into an old mine that had been abandoned some years ago, which gave them an outlet, and the boss promised to get the stairs in it right away. The general condition of the mine now is good.

North Mine,

Owned by Benjamin Simpson, is located on the I. & St. L. R. R., two miles west of Carbon. This mine is in a bad condition and was on both my visits. The two seams are worked, I and J (better known as top and bottom seams). They have an escapement from the top seam but none from the bottom. I have the promise from Mr. Simpson that the escapement will be completed in a few days and that he will fix up the air.

Paw-Paw,

Owned by Morgan & Powel. Located one-half mile west of Cardonia, on the North Branch of the T. H. & I. R. R. This mine was visited once and was found in fair condition. It was never visited before by an inspector, although it has been running three years. I tested the scales and found them correct.

West's Mine,

Owned by Thomas West, is located one-half mile west of Cardonia, on the North Branch of the T. H. & I. R. R. I visited this mine once and found it in fair condition. On my second visit I found that the mine had been shut down and abandoned but not worked out, the royalty being so high that Mr. West could not afford to pay it and run the mine.

Perth.

This mine is owned by the Edgar Coal Co., and is located one-half mile west of Perth on the I. & St. L. R. R. Was visited once and found in very bad condition, there being very little air in circulation. The mine was shut down in June, 1885, and has not run any since that time.

Litchfield

Is owned by Coal Bluff Mining Co., and is located just north of Carbon. The two seams, I and J, are worked here. The mine is ventilated by a fan and is in fair condition. The top seam, or coal I, has been open on the single entry plan but they are starting double entries and going away with single entries. All

the coal from both seams is hoisted from the bottom seam. The coal from the top seam is lowered to the bottom by means of a drop shaft which is located on the east side of the main hoisting shaft. After the coal has been lowered down one man takes it off the drop shaft cage and puts it on the main cage. All the coal from the bottom seam comes from the west side of the shaft.

Before leaving this county I desire to say that in addition to the other improvements herein spoken of, that there have been nine old mines fenced in that have been abandoned for a number of years. They are located as follows: Three near Maston's furnace, two at the brick factory and four along the line of the T. H. & I. R. R., near Newburg.

Bartlett Mine,

Owned by Brazil Block Coal Co. Located one mile north of Brazil on a branch of the T. H. & I. R. R. It was visited twice; was found in fair condition. It is an old mine and in all probability will not be run more than another year.

DAVIESS COUNTY.

Sulphur Springs Mine,

Owned by Cable, Wilson & Co., located south of Washington one-half mile. It is ventilated by a fan and furnace. Was visited twice. The general condition of the mine was good.

South Branch.

This mine is also south of Washington about half a mile, and is owned by Cable, Wilson & Co. It is ventilated by a furnace. This is an old mine, having been worked for a number of years. They are now drawing the pillars. The general condition of the mine is fair.

Eureka,

Owned by Cable, Wilson & Co., located three-quarters of a mile southeast of Washington. The mine is ventilated by a furnace, and is in good condition.

Maple Valley,

Owned by Cable, Wilson & Co., is located two miles southwest of Washington. There is a switch from the main line of the O. & M. R. R. running out to the mine. During the year this mine was visited twice, and found in good condition.

No. 5,

Owned by Cable, Wilson & Co., located about one-half mile north of Maple Valley Mine, and is connected under ground with it. This mine was visited once, and was found with very little air in circulation. When I returned the second time the shaft was abandoned and the machinery all moved away.

No. 4,

Owned by Cable, Wilson & Co. This mine is also abandoned. The company has sunk another shaft just west of this one, which will also be called No. 4.

Buckeye,

Owned by Cable, Wilson & Co., located at Cannelburg, on the O. & M. R. R. On my first visit I found the mine run in a very careless manner, the doors being left open and breaks-through not closed. On my second visit I found a great change. The doors were all kept shut, the breaks-through closed, and the mine in good running order. It is ventilated by a fan.

Union No. 1,

Owned by Union Coal Co., located one-half mile south of Cannelburg. This mine was visited twice, and found in bad condition, there being very little provision made for ventilating the mine. It is ventilated by natural draft.

Union No. 2

Is also owned by Union Coal Co., and is located just north of No. 1, and was shut down the first of May.

Wilson,

Owned by Wilson Coal Co., located at Montgomery, on the line of the O. & M. R. R. The company finished sinking this shaft in September, but do not expect to begin extensive operation until January, 1886, at which time their coal bins will be completed, and the railroad company will in the future coal their engines there instead of at Washington.

DUBOIS COUNTY.

This county has only two mines in it that are of any importance. Those are Rosebank, situated about three miles north of Huntingburg on the Air Line R. R., and the other is Sandy Baroman, which is located just east of the depot at Huntingburg. This is a new mine and is not opened out to any great extent, it having been put down last summer.

Rosebank.

This mine is owned by J. C. Futes, successor to C. O. Godfrey. This mine was visited twice. On my first visit it was in a very bad condition. The air course to the furnace was almost closed up, thus preventing the circulation of air. On my second visit they had put down an air shaft, and intend putting in a furnace. They are now driving double entries and the mine is in a good condition.

FOUNTAIN COUNTY.

No. 2 Mine.

Owned by Woodruff, Trunkey & Co., located west of Stringtown. This mine was shut down February 1, 1885, and will be reopened November 1, 1885. It will be seen that this mine was idle on both my visits to this county.

No. 3,

Owned by Woodruff, Trunkey & Co., located half a mile west of Stringtown. This mine was visited twice and found in fair condition. I tested the scales and found them weighing forty pounds to the ton against the company.

Yeddo.

This mine is owned by H. Porter & Co., located just north of the little town of Yeddo. This mine was flooded with water in the month of March, and was not pumped out or reopened until the month of June. On my last visit to this mine I found it in fair condition. I tested the scales and found them correct.

McVey's,

Owned by McVey & Co., successors to Ogden Bro., located half a mile east of Stringtown. Was inspected once. On my second visit it was not running. The general condition of the mine was good. I tested the scales and found them correct.

Bunker No. 2,

Owned by T. Tyley, located a mile west of Stringtown. It was visited twice and found in bad condition. During the month of October they put down an air shaft. This mine was formerly operated by Patterson & Sons. The scales were correct.

Habberman,

Owned by Chas. Habberman, located one-half mile southwest of Stringtown. This mine was visited once and found in bad condition. On my second visit it was shut down.

Bluff,

Is owned by Woodruff, Trunkey & Co., located southeast of Stringtown. Was shut down March 1, 1885, and has not since been reopened.

GREENE COUNTY.

Island City No. 1,

Owned by Island City Coal Company, is located one and a half miles south of Linton on a branch of the I. & V. R. R. This mine was visited twice. The first visit I found very little air in circulation. They were depending on natural draft. The mine is a new one, and is being opened on the double-entry plan. On my second visit I found they had put in a fan, and had the mine in first-class condition. They have completed an escapement shaft.

No. 2,

Also owned by Island City Coal Company, is located one-half mile southeast of No. 1. This mine was inspected once. On my first visit it was not in operation. They have completed an air shaft during the year, and have promised to put in a furnace, and to drive double entries instead of single ones that have formerly been driven.

KNOX COUNTY.

Indian Creek,

Owned by the Indian Creek Coal Company, is located one mile and a quarter south of Bicknell, on a branch of the I. & V. R. R. This mine was visited twice and found in excellent condition.

White River,

Owned by Michael Atkins & Co., located one mile northwest of Edwardsport. This mine was visited twice. On my first visit they had very little air, the full volume being only 1,370 cubic feet per minute in circulation for thirty men, and they were driving single entries with one exception. On my second visit they had built a furnace and were driving double entries, and had 5,700 cubic feet of air in circulation per minute, with twenty-four men employed in the mine, and is now in first-class condition.

OWEN COUNTY.

Lancaster Nos. 1 and 2,

Owned by Lancaster Block Coal Company, located three and one-half miles north of Clay City, on a branch of the T. H. & S. E. No. 1 mine was visited twice. On my first visit it was in a very bad condition. On my return I found that the company had put down another shaft just north of No. 1, which is known as No. 2. This mine is connected underground with No. 1, and is ventilated by a fan which produces 15,000 cubic feet of air per minute. Both mines are in fair condition.

PERRY COUNTY.

There are a number of mines in this county, but few come under the provisions of the mining law. The county has no railroads, and what coal is shipped must be shipped by water. The American Cannel Coal Company, of Cannelton, and Burgenroth Bros., of Troy, are the principal mine owners.

Sioux Nos. 1 and 2,

Owned by the American Cannel Coal Co., and located two and a half miles northeast of Cannelton. These mines were visited twice; on my first visit I found No. 1 in fair condition, but No. 2, which is just over the hill from No. 1, had very little air in circulation; some places the men had two lights to work with, as they were depending entirely on natural draft. The air courses were behind and in many places there were no doors where they were badly needed. On my second visit to these mines I found they had made a new opening at No. 2, which answered for an escapment for the men. That they had also built a furnace and driven several air courses and had put up a number of doors, and the mine was in good condition.

Windy Creek,

Owned by Burgenroth Bros., and located one mile up the Ohio River from Troy. This mine was visited twice and found in bad condition, there being no fire kept in the furnace. On my

second visit I found they were only working five men, and they were all working near the bottom of the shaft. The Company expects to work out and abandon the mine this winter.

PARKE COUNTY.

No. 2 Mine,

Owned by Parke County Coal Co., and is located at Rosedale. This mine was visited twice and found in fair condition. The coal is mined by machinery run by compressed air. The roof is bad and there is considerable water to contend with. The coal dips to the south.

No. 3,

Owned by the same Co., located on a branch of the T. H. & L. R. R., which branches off the main line at Jessup. This mine was visited twice. During the year they have put down an escapement shaft, and have also made a traveling way around the shaft for men and mules. The mine is in good condition.

No. 4,

Owned by the same Co., is located one-half mile up the switch from No. 3. They drive all double entries at this mine. The general condition of the mine is good. They have no escapement shaft, but I have the promise of the Superintendent that he will put down one soon as possible.

Walker's,

Owned by F. A. Bowen. Located at Clinton Locks. Was worked out and abandoned in June, 1885.

Harrison's,

Owned by Harrison, Cladwell & Co., and is located near the little town of Nysville. This mine is run on a small scale; on my last visit they were employing only twelve men. The condition of this mine is good.

Batty's,

Owned by John Batty, and is located near the town of Nysville. Ten men are employed in this mine. It is ventilated by a furnace, and is in splendid condition.

Black Diamond,

Owned by the Stevens Coal Co., is located near the southern line of Parke County. On my first visit to this mine I found it in very bad condition. They were depending on natural draft for ventilation. This I objected to as there were forty or fifty men at work in the mine with not enough air for ten. After some delay and considerable trouble, I finally succeeded in getting them to sink an air shaft and put in a fan. This being done I found the mine on my last visit in excellent condition, with the exception of two entries which were being drove without air courses.

Blaine,

Owned by Brazil Block Coal Co., is located one and a half mile northwest of Carbon, on a branch of the I. & St. L. R. R. On my first visit to this mine they were ventilating by natural draft. Since that time they have sunk an air-shaft and put in a fan. The mine is in splendid condition. This company has two drifts close to this shaft. The coal from both, while they were running, was dumped over the shaft-tipple. No. 1 is now abandoned, but they are still taking coal out of No. 2, which is just east of No. 1. This mine, when visited last, was found in very bad condition. It had been opened up on the single-entry plan, but since that time they have put in a furnace, and are now driving double-entries.

PIKE COUNTY.

Ayershire Mine,

Owned by D. E. Ingle, located about six miles from Oakland City, Gibson County, on the line of the L., E. & St. L. R. R. This mine was visited twice, and found in fair condition on

both visits. The Laclede Coke Co. have completed thirty-six coke ovens, with a capacity of six tons per oven, all of which are now in operation. The company will resume building ovens March 1, 1886, and will then build an additional block of seventy ovens. This is a St. Louis firm, and are shipping all their coke to St. Louis.

Whitman,

Owned by C. O. Godfrey & Co., and is located about three miles from Oakland City, Gibson County, on the line of the L., E. & St. L. R. R. This mine was in splendid condition on my first visit. On my second visit they had allowed some of the air-courses to get behind the entries, and were then very busy trying to get them up. The boss promised not to drive the entries any farther until the air-courses were up with them.

Hazeldell,

Owned by Stephen Betaman, successor to Posey & Montgomery. This mine is located three miles north of Petersburg, on the line of the E. & I. R. R. The mine is in very bad condition, although they sunk an air-shaft during the summer. Still they have no artificial means of ventilation. Mr. Betaman is going to sink a slope and drive double-entries and put in a furnace, and get the mine up to the requirements of the law in other respects.

Rogers,

Owned by Roger & Bros., and is located about two miles north of Hazeldell. On my first visit I found the mine short in many respects. Entries and air-courses were, in some instances, driven parallel with each other for a distance of sixty yards, without any breaks-through. In some entries I found as many as three breaks-through, without any of them being stopped up. They had a fire built on three or four bars of iron, which they called the furnace. On my second visit I was pleased to find a good volume of air in circulation around the entire mine, and the breaks-through were receiving proper attention. In no instances were the entries driven more than twenty-five yards without breaks-through. The furnace had also been remodeled, and the general condition of the mine was good.

SULLIVAN COUNTY.

Pioneer,

Owned by Curriesville Coal Co. Located one-half mile north of Shelburn, on the E. & T. H. R. R. On my first visit to this mine, I found it in a bad condition, there being not more than half enough air for the number of men at work. On my second visit to this mine its general condition was fair and very much improved.

Shelburn No. 1,

Owned by Shelburn Coal Co. Located in the town of Shelburn. This mine has been reopened and they have sunk to the lower vein, or coal L, and are driving entries to connect No. 1 with No. 2.

Shelburn No. 2,

Owned by the Shelburn Coal Co. Located a short distance south of No. 1. This mine was visited twice and found in good condition. It is worked on the double entry plan and is ventilated by a fan.

Sullivan,

Owned by the Shelburn Coal Co. Located just north of the town of Sullivan, which is county seat of Sullivan County, on the line of the E. & T. H. R. R. This mine is worked on a small scale. On my last visit there were only seven men employed.

Bunker Hill,

Owned by Hancock & Cauckle. Located three miles east of Sullivan, on the line of the I. & I. S. Narrow Gauge R. R. They put down an air and escapement shaft during the month of June, 1885. The shaft is ventilated by natural means and is in fair condition.

Lyonton,

Owned by the Lyonton Coal & Coke Co. Located on the line of the I. & I. S. R. R., about five miles east of Sullivan. It is worked on the double entry plan, is ventilated by a furnace and is in good condition.

Dugger,

Owned by Dugger & Neil. Located on the line of the I. & I. S. R. R. This mine is ventilated by a fan and was in good condition on both my visits. On my last visit it was shut down for a few days waiting for the switch that was being built by the company from the Island City Mines to be completed. The building of this switch will give the firm of Dugger & Neil a great advantage over the other coal owners along the I. & I. S. R. R. It being of standard gauge it will do away with the expense of transferring the coal from the narrow gauge to the standard gauge cars and will thus enable the firm to get into better markets with their coal.

VIGO COUNTY.

Fountain No. 1,

Owned by the Coal Bluff Mining Co. Located at Fontanet, on the I. & St. L. R. R. It has been worked for several years. On my first visit it was in bad condition, and on my second visit it was considerably improved, but the air was still far from being good.

Fountain No. 2,

Owned by the Coal Bluff Mining Co. Located about half a mile northwest of No. 1, and was sunk in the month of June, 1885. They expect to connect the two mines under ground.

South Mine,

Owned by the Edgar Coal Co. Located about half a mile southwest of Coal Bluff, on a switch extending from the I. & St. L. R. R. This mine is worked on the double entry plan and was found in excellent condition on both my visits.

Seeleyville,

Owned by P. Ehrlich & Co. Located at Seeleyville, on the line of the T. H. & I. R. R. In the month of September, 1885, they put a stairway in an old shaft that had been abandoned and made a good traveling way to the bottom of it, and are now using it for an escapement shaft. It is ventilated by a fan and is in good condition.

Kay's,

Owned by Kay, Lang & Co. Located south of Coal Bluff, half a mile, on a branch of the I. & St. L. R. R. It is ventilated by natural draft and was in fair condition on my first visit. On my second visit it was shut down and I did not inspect it.

Eppart,

Owned by W. Eppart. Located about half a mile up the switch from Kay & Lang. It is ventilated by natural draft. On my first visit it was in a very bad condition, there being no air in the mine. It was shut down in March, 1885, and has not been reopened to my knowledge.

Somerset,

Owned by N. S. Whete. Located half a mile north of the town of Riley, on the line of the T. H. & S. E. R. R. It is ventilated by a furnace and is in bad condition. The mine was shut down in July, 1885, and has not been reopened to my knowledge.

Union Mine,

Owned by the Co-operative Coal Co., of Fontanet; located half a mile southeast of Fontanet. This mine was opened some years ago, but has not been worked to any extent until the present company got control of it. The mine is being opened on the double-entry plan, and at present is being ventilated by a jet. This company is making extensive preparations to get out a large amount of coal daily, and have built a switch from the I. & St. L. R. R., a distance of half a mile.

VERMILLION COUNTY.

Briar Hill Mine,

Owned by the Norton Creek Coal and Mining Co. Located one mile north of Clinton. Is ventilated by a furnace and was in good condition when last visited. It was only inspected once. It was idle on my second visit and I did not enter the mine.

Hazel Bluff Mine,

Owned by Sherkey Coal Company, successors to Brown & Hydenshaw. On my first visit to this mine I found it in a very bad condition, there being very little air in it. It was then operated by Brown & Hydenshaw. On my second visit I found that the new company had taken charge and was at work putting down an air shaft, which was completed September 9, 1885.

Norton Creek,

Owned by Norton Creek Coal and Mining Co. Located three miles and a half northwest of Clinton on a switch built from C. & E. I. R. R., a distance of two miles. This mine was in splendid condition when visited last. It is a new mine and is ventilated by a furnace. This company has a large body of coal land here and intend making another opening in the spring of 1886, and also to build a number of coke ovens. I tested their scales and found them weighing correctly.

VANDERBURGH COUNTY.

Ingleside Mine,

Owned by John Ingle & Co. Located on the bank of the Ohio River, just west of the city of Evansville. It has been worked for a number of years and was in good condition on both my visits.

Sunnyside,

Owned by the Evansville Coal and Mining Co. Located northwest of the city of Evansville, just beyond the corporate limits. This mine was visited twice and found in good condition, and is ventilated by a fan.

Unity,

Owned by the Unity Coal Co. Located north of the city of Evansville on the P., D. & E. R. R. It is very poorly ventilated. They depend entirely upon a steam jet for air. On my last visit to this mine the boss promised to put up a fan immediately, but I am not informed as to whether he put it up or not.

First Avenue Mine,

Owned by the First Avenue Coal and Mining Company, located north of the city of Evansville. On my last visit they were driving an air-course in a northwesterly direction, which is intended to reach the main west entry and bring the air up to its face. When this is completed the mine will be in a first-class condition.

Echo Mine,

Owned by the Echo Coal and Mining Company, located northeast of the city of Evansville. This mine is ventilated by a jet, and was in bad condition when last visited. I have the promise of the company that they will sink an air shaft as soon as the weather will permit in the spring.

The Belt Road Coal Company are sinking a shaft just east of the city of Evansville, on the line of the Belt railroad. They have had considerable difficulty in sinking, as they have been troubled with a bed of quicksand. At this writing (January 1, 1886) they have not finished sinking. The other mines are the deepest in the State.

WARRICK COUNTY.

Star No. 2,

Owned by Love & Angle, located one-half mile up the Ohio river from Newburg. The general condition of this mine is bad. On my last visit the company promised to fix it up immediately.

Locust Grove,

Owned by Albert M. Hazen, located east of Newburg one mile. This mine was shut down on December 1, 1884.

Chandelier,

Owned by M. M. Freed, located on the line of the L., E. & St. L. R. R., about six miles southwest of Boonville, the county seat of Warrick county. This mine was visited twice and found in fair condition on both visits.

No. 3 Mine,

Owned by M. M. Freed, located one mile and a half southeast of Chandelier, on the L., E. & St. L. This mine was reopened the 1st of May, 1885, and is very poorly ventilated. During the time it stood idle water had accumulated at the bottom of the air shaft, and they had not succeeded in getting it out when I was there last.

DeForest,

Owned by Bettram Menden, located one-half mile east of No. 3, on the line of the L., E. & St. L. R. R., was shut down May 1, 1885.

Boonville Mine,

Owned by Robert Goff, located one-half mile east of Boonville, on the L., E. & St. L. R. R. There was an air shaft put down at this mine in June, 1885. The mine is in fair condition and is ventilated by natural draft.

Wilkinson Mine

Owned by the Evansville and Warrick Consolidated Coal Company, located one mile and a half southwest of Boonville, on the L., E. & St. L. R. R. This mine was shut down in May, 1885.

Table Giving Name of Mines, Also Name and Address of Owners, Etc., of All Mines in Clay County that Employ Ten or More Men.

Name of Mines.	Operator.	Address.	Kind of Mines.	Power Used.	Kind of Coal.	Seam Worked.	Coal Thickness.		Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
							Feet.	Inches.			
No. 3	Brazil Block Coal Co	Brazil, Ind	Shaft.	Steam	Block	I	3	6	65	40	Fan.
No. 5	Brazil Block Coal Co	Brazil, Ind	Slope.	Steam	Block	J	3	3	75	80	Fan.
Abby	T. Watson & Co	Brazil, Ind	Shaft.	Steam	Block	I & J.	3	6	20	80	Fan.
Hancock	Brazil Block Coal Co	Brazil, Ind	Shaft.	Steam	Block	J	3	3	40	80	Fan.
Briar Hill	Brazil Block Coal Co	Brazil, Ind	Shaft.	Steam	Block	J	3	6	110	25	Furnace.
Chicago	Brazil Block Coal Co	Brazil, Ind	Shaft.	Steam	Block	J	3	4	100	80	Fan.
Morris	Brazil Block Coal Co	Brazil, Ind	Shaft.	Steam	Block	I	3	6	100	52	Fan.
Campbell	Brazil Block Coal Co	Brazil, Ind	Shaft.	Steam	Block	I	3	7	106	175	Fan.
Gartsherre No. 1	Drew & Wasson	Brazil, Ind	Shaft.	Steam	Block	J	3	5	109	160	Fan.
Gartsherre No. 2	Drew & Wasson	Brazil, Ind	Shaft.	Steam	Block	I & J.	3	9	120	250	Two fans.
Crawford	Crawford Coal Co	Brazil, Ind	Shaft.	Steam	Block	I & J.	3	9	107	175	Fan.
Star	Zeller & Sigler	Knightsville, Ind	Shaft.	Steam	Block	J	3	6	100	96	Fan.
Peanut	Zeller & Sigler	Knightsville, Ind	Shaft.	Steam	Block	J	3	8	100	84	Fan.
Nickle-Plate	Jackson Coal Co	Brazil, Ind	Shaft.	Steam	Block	I & J.	3	6	102	350	Two fans.
Centennial	Charles B. Reddie	Brazil, Ind	Shaft.	Steam	Block	I	3	5	70	17	Furnace.
Phœnix	P. Ehrlich & Co	Turner P. O	Shaft.	Steam	Block	I	3	8	40	65	Fan.
South Slope	P. Ehrlich & Co	Turner P. O	Slope.	Steam	Block	I	3	6	30	30	Fan.
Newburg	P. Ehrlich & Co	Turner P. O	Shaft.	Steam	Bituminous	L	7		75	100	Fan.
Wheeler	W. W. Risher	Brazil, Ind	Shaft.	Steam	Bituminous	L	6	6	62	35	Fan.
Staunton	Joseph Summers	Turner P. O	Shaft.	Steam	Bituminous	L	6	6	38	21	Natural draft.
Burgherville	Samuel Pryer	Turner P. O	Shaft.	Steam	Bituminous	L	6	6	60	31	Fan.
North Mine	Ben. Simpson	Carbon, Ind	Shaft.	Steam	Block	I & J.	3	7	62	35	Natural draft.
Paw-Paw	Morgan & Powell	Cardonia, Ind	Slope.	Mule.	Block	J	3	6	20	20	Furnace.
West's	Tom West	Cardonia, Ind	Drift.	Steam	Block	J	3	3	30	20	Furnace.
Perth	Edgar Coal Co	Coal Bl'ff, Vigo Co	Slope.	Steam	Block	I	4		20	20	Natural draft.
Litchfield	Coal Bluff Mining Co	Carbon, Clay Co	Shaft.	Steam	Block	I & J.	3	4	90	175	Fan.
Bartlett	Brazil Block Coal Co	Brazil, Ind	Shaft.	Steam	Block	I	3	4	106	150	Fan.

Table Giving Name of Mines, also Name and Address of Owners of All Mines in Daviess County That Employ Ten or More Men.

Name of Mine.	Operator.	Address.	Kind of Mine.	Power Used.	Kind of Coal.	Seam Worked.	Coal Thickness. Feet.	Coal Thickness. Inches.	Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
Sulphur Springs	Cable, Wilson & Co.	Washington, Ind	Shaft.	Steam	Bituminous	L.	4	..	60	88	Furnace & fan
South Branch.	Cable, Wilson & Co.	Washington, Ind	Slope.	Steam	Bituminous	L.	4	..	60	86	Furnace.
Eureka	Cable, Wilson & Co.	Washington, Ind	Slope.	Horse	Bituminous	L.	3	..	48	40	Furnace.
Maple Valley.	Wilson, Kaufman & Co	Washington, Ind	Shaft.	Steam	Bituminous	L.	4	6	74	100	Furnace.
No. 5	Cable, Wilson & Co.	Washington, Ind	Shaft.	Steam	Bituminous	L.	4	..	50	58	Furnace.
No. 4	Cable, Wilson & Co.	Washington, Ind	Shaft.	Steam	Bituminous	L.	4	..	70	10	Furnace.
Buckeye	Buckeye Cannel Coal Co.	Washington, Ind	Shaft.	Steam	Bitu's & cannel	I.	4	..	100	107	Fan.
Union No. 1.	Union Coal Co	Cannelburg, Ind	Shaft.	Horse	Semi-block	....	4	..	33	10	Natural draft.
Union No. 2.	Union Coal Co	Cannelburg, Ind	Shaft.	Steam	Bitu's & cannel	I.	5	..	96	11	Natural draft.
Wilson	Wilson Coal Co.	Washington, Ind	Shaft.	Steam	Bituminous	....	3	6	96	10	Natural draft.

Table Giving Name of Mines, also Name and Address of Owners of All Mines in Dubois County That Employ Ten or More Men.

Name of Mine.	Operator.	Address.	Kind of Mine.	Power Used.	Kind of Coal.	Seam Worked.	Coal. Thickness. Feet.	Coal. Thickness. Inches.	Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
Baroman	Sandy Baroman	Huntingburg, Ind	Shaft.	Steam	Bituminous	....	..	..	....	10	Natural draft.
Rosebank.	J. C. Futes	New Washington	Drift.	Mules	Bituminous	L.	4	6	50	30	Furnace.

Table Giving Name of Mines, also Name and Address of Owners of all Mines in Fountain County that Employ Ten or more Men.

Name of Mine.	Operator.	Address.	Kind of Mines.	Power Used.	Kind of Coal.	Seam Worked.	Coal Thickness.		Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
							Feet.	Inches.			
No. 2	Woodruff, Trunkey & Co	No. 58 Dearborn st., Chicago	Shaft.	Steam	Bituminous	L.	6		106	61	Fan.
No. 3	Woodruff, Trunkey & Co	No. 58 Dearborn st., Chicago	Shaft.	Steam	Bituminous	L.	6		93	120	Fan.
Yeddo	H. Porter	Yeddo	Shaft.	Steam	Semi-Block	J.	4	6	50	75	Fan.
McVey's	McVey & Co	Snoddy's Mills	Drift.	Mules	Bituminous	L.	5	6	50	30	Fan.
Bunker No. 2	T. Tyley	Snoddy's Mills	Shaft.	Steam	Bituminous	L.	4	6	80	26	Fan.
Habberman	C. Habberman	Snoddy's Mills	Drift.	Mules	Bituminous	L.	3	6	38	12	Furnace.
Bluff	Woodruff, Trunkey & Co	No. 58 Dearborn st., Chicago	Drift.	Mules	Bituminous	L.	5	6	50	48	Furnace.

Table Giving Name of Mines, also Name and Address of Owners of all Mines in Greene County that Employ Ten or more Men.

Name of Mine.	Operator.	Address.	Kind of Mines.	Power Used.	Kind of Coal.	Seam Worked.	Coal Thickness.		Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
							Feet.	Inches.			
Island City No. 1.	Island Coal Co	Linton, Ind	Shaft.	Steam	Bituminous	L.	5	6	60	100	Fan.
Island City No. 2.	Island Coal Co	Linton, Ind	Shaft.	Horse	Bituminous	L.	5	6	22	26	Natural draft.

Table Giving Name of Mines, also Name and Address of Owners of all Mines in Knox County that Employ Ten or more Men.

Name of Mine.	Operator.	Address.	Kind of Mines.	Power Used.	Kind of Coal.	Seam Worked.	Coal Thickness.		Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
							Feet.	Inches.			
Indian Creek	Indian Creek Coal Co.	Bicknell	Shaft.	Steam	Bituminous	K.	4	4	95	50	Fan.
White River	M. Atkens & Co	Edwardsport	Drift.	Mule.	Bituminous	L.	5		60	27	Furnace.

Table Giving Name of Mines, also Name and Address of Owners of all Mines in Owen County that Employ Ten or more Men.

Name of Mine.	Operator.	Address.	Kind of Mines.	Power Used.	Kind of Coal.	Seam Worked.	Coal Thickness.		Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
							Feet.	Inches.			
Lancaster No. 1	Lancaster Coal Co	Clay City, Clay Co	Shaft.	Steam	Semi-Block	I.	4	6	50	50	Fan.
Lancaster No. 2	Lancaster Coal Co	Clay City, Clay Co	Shaft.	Steam	Semi-Block	I.	4	6	60	50	Fan.

Table Giving Names of Mines; Also, Name and Address of Owners of all Mines in Perry County that Employ Ten or More Men.

NAME OF MINE.	OPERATOR.	ADDRESS.	Kind of Mine.	Power Used.	KIND OF COAL.	Seams Worked.	COAL THICKNESS.		Depth from Surface in Feet.	Average No. of Men Employed.	HOW VENTILATED.
							Feet.	Inches.			
Sioux No. 1.	American Cannel Coal Co . . .	Cannelton	Drift.	Mules	Semi-Block . .	F	2	6	150	12	Natural draft.
Sioux No. 2.	American Cannel Coal Co . . .	Cannelton	Dritt.	Mules	Semi-Block . .	F	3	. .	150	60	Furnace.
Windy Creek	Burgenroth Bros	Troy	Shaft.	Steam	Bituminous . .	G	3	3	140	20	Furnace.

Table Giving Names of Mines; Also Names and Address of Owners of all Mines in Parke County that Employ Ten or More Men.

NAME OF MINE.	OPERATOR.	ADDRESS.	Kind of Mine.	Power Used.	KIND OF COAL.	Seams Worked.	COAL THICKNESS.		Depth from Surface in Feet.	Average No. of Men Employed.	HOW VENTILATED.
							Feet.	Inches.			
No. 2	Parke County Coal Co.	Rosedale.	Shaft.	Steam	Bituminous . .	L	5	6	65	125	Fan.
No. 3	Parke County Coal Co.	Rosedale.	Shaft.	Steam	Semi-Block . .	I	4	. .	65	150	Fan.
No. 4	Parke County Coal Co.	Rosedale.	Shaft.	Steam	Semi-Block . .	I	4	. .	80	125	Fan.
Walker's	F. A. Bowen	Clinton, Vermillion Co.	Drift.	Mules	Bituminous . .	L	5	6	75	25	Furnace.
Harrison's	Harrison, Caldwell & Co . . .	Nysville	Drift.	Mules	Semi-Block . .	J	4	. .	51	12	Furnace.
Batty's	John Batty.	Nysville	Drift.	Mules	Semi-Block . .	J	4	. .	41	10	Furnace.
Black Diamond	Stephens Coal Co	Carbon, Clay Co.	Slope.	Steam	Block	J	3	10	38	75	Fan.
Blaine	Brazil Block Coal Co	Brazil, Ind . . .	Shaft.	Steam	Block	J	4	. .	40	100	Fan.
Blaine No. 2	Brazil Block Coal Co	Brazil, Ind . . .	Drift.	Steam	Block	I	3	10	30	40	Furnace.

Table Giving Names of Mines; Also Names and Address of Owners of all Mines in Pike County that Employ Ten or More Men.

Name of Mine.	Operator.	Address.	Kind of Mine.	Power Used.	Kind of Coal.	Seams Worked.	Coal Thickness.		Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
							Feet.	Inches.			
Ayrshire	D. E. Ingle	Oakland City, Gibson Co	Slope.	Steam	Bituminous	L	4	8	65	147	Fan.
Whitman's	C. O. Godfrey	St. Louis, Mo	Shaft.	Steam	Bituminous	L	4	..	50	75	Fan.
Hazeldell	S. Bettyman	Petersburg	Shaft.	Steam	Bituminous	L	6	..	40	30	Natural draft.
Rogers'	Rogers Bros	Washington	Drift.	Steam	Bituminous	L	7	..	80	75	Furnace.

Table Giving Name of Mines, also Name and Address of Owners of all Mines in Sullivan County that Employ Ten or more Men.

Name of Mine.	Operator.	Address.	Kind of Mine.	Power Used.	Kind of Coal.	Seams Worked.	Coal Thickness.		Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
							Feet.	Inches.			
Pioneer	Curriesville Coal Co	Shelburn	Shaft.	Steam	Bituminous	L	5	6	248	47	Fan.
Shelburn, No. 1	Shelburn Coal Co	Shelburn	Shaft.	Steam	Bituminous	L	5	6	248	10	
Shelburn, No. 2	Shelburn Coal Co	Shelburn	Shaft.	Steam	Bituminous	L	5	..	248	41	Fan.
Sullivan	Shelburn Coal Co	Shelburn	Shaft.	Steam	Bituminous	L	4	..	250	15	Furnace.
Bunker Hill	Hancock & Caukie	Sullivan	Shaft.	Steam	Bituminous	L	4	8	65	18	Natural draft.
Lyonton	Lyonton Coal Co	Sullivan	Shaft.	Steam	Bituminous	L	6	..	70	40	Furnace.
Dugger	Dugger & Neil	Dugger Station	Shaft.	Steam	Bituminous	L	5	4	70	100	Fan.

Table Giving Name of Mines, also Name and Address of Owners of all Mines in Vigo County that Employ Ten or more Men.

Name of Mine.	Operator.	Address.	Kind of Mine.	Power Used.	Kind of Coal	Seams Worked.	Coal Thickness.		Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
							Feet.	Inches.			
Fountain, No. 1	Coal Bluff Mining Co	Fontanet	Shaft.	Steam	Bituminous	L	6	..	62	170	Fan.
Fountain, No. 2	Coal Bluff Mining Co	Fontanet	Shaft.	Steam	Bituminous	L	6	..	60	20	Natural draft.
South	Edgar Coal Co	Coal Bluff	Shaft.	Steam	Bituminous	L	5	6	60	130	Fan.
Seeleyville	P. Ehrlich & Co	Turner P. O., Clay County	Shaft.	Steam	Bituminous	L	7	..	96	60	Fan.
Kay's	Kay, Lang & Co	Coal Bluff	Slope.	Steam	Bituminous	L	6	..	45	60	Furnace.
Eppart	W. Eppart	Coal Bluff	Dritt.	Steam	Bituminous	L	6	..	40	20	Natural draft.
Somerset	N. S. Whete	Terre Haute	Shaft.	Steam	Bituminous	L	5	..	65	30	Furnace.
Union Mine	Co-Operative Coal Co	Fontanet	Shaft.	Steam	Bituminous	L	5	..	60	50	Natural draft.

Table Giving Name of Mines, also Name and Address of Owners of all Mines in Vermillion County that Employ Ten or more Men.

Name of Mine.	Operator.	Address.	Kind of Mine.	Power Used.	Kind of Coal.	Seams Worked.	Coal Thickness.		Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
							Feet.	Inches.			
Briar Hill	Norton Creek Coal & Min'g Co	Clinton	Drift.	Mules	Bituminous	L	5	4	75	31	Furnace.
Hazelbluff	Sherky Coal Co	Clinton	Drift.	Mules	Bituminous	L	4	4	90	35	Furnace.
Norton Creek	Norton Creek Coal Co	Clinton	Drift.	Mules	Bituminous	L	6	..	40	80	Furnace.

Table Giving Name of Mines, also Name and Address of Owners of all Mines in Vanderburgh County that Employ Ten or more Men.

Name of Mine.	Operator.	Address.	Kind of Mine.	Power Used.	Kind of Coal.	Seams Worked.	Coal Thickness. Feet.	Coal Thickness. Inches.	Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
Ingleside	J. Ingle & Co.	Evansville.	Shaft.	Steam	Bituminous	K	4	..	263	99	Fan.
Sunnyside	Evansville Coal Co	Evansville.	Shaft.	Steam	Bituminous	K	4	..	266	35	Fan.
Unity	Unity Coal Co	Evansville.	Shaft.	Steam	Bituminous	J	4	..	257	19	Natural draft.
First Avenue	First Avenue Coal Co	Evansville.	Shaft.	Steam	Bituminous	K	4	6	260	52	Fan.
Echo	Echo Coal Co	Evansville.	Shaft.	Steam	Bituminous	K	4	..	257	40	Natural draft.

Table Giving Name of Mines, also Name and Address of Owners of all Mines in Warrick County that Employ Ten or more Men.

Name of Mine.	Operator.	Address.	Kind of Mine.	Power Used.	Kind of Coal.	Seams Worked.	Coal Thickness. Feet.	Coal Thickness. Inches.	Depth from Surface in Feet.	Average No. of Men Employed.	How Ventilated.
Star No. 2	Love & Angel	Newburg	Shaft.	Steam	Bituminous	K	4	..	104	25	Furnace.
Locust Grove	Albert N. Hazen	Newburg	Shaft.	Steam	Bituminous	K	4	..	112	10	Furnace.
Chandelier	M. M. Freed	Evansville.	Shaft.	Steam	Bituminous	K	4	..	85	40	Furnace.
No. 3	M. M. Freed	Evansville.	Shaft.	Steam	Bituminous	K	5	6	85	35	Furnace.
DeForest	Bettram Menden.	Evansville.	Shaft.	Steam	Bituminous	K	6	6	95	30	Furnace.
Boonville	Robert Goff	Boonville	Shaft.	Steam	Bituminous	K	6	6	45	16	Furnace.
Wilkinson	Evansville & Warrick Consolidated Coal Co	Evansville.	Slope.	Steam	Bituminous	K	4	6	40	20	Furnace.

It is with a feeling of pardonable pride that I refer to the improvements made during the year. The total number of fans is eight, number of furnaces three, number of air and escapement shafts is fifteen. Besides these improvements there have been several safety catches put on cages, a number of abandoned mines have been fenced, and in several instances there have been stairways put in escapement shafts that heretofore had none. While this is as many or perhaps more improvements than were made in any one year since the passage of the mining laws of Indiana, still there is room for further improvements. With this end in view I invite the co-operation of the miners of the State to aid in bringing about the improvements designed by the law. There are many causes for complaint in a mine which an inspector might overlook, or fail to notice. I shall at all times be pleased to hear from any miner in the State notifying me of any violations of the law, and their communications will receive prompt attention, and will be considered *strictly* confidential.

On the next page will be found the number of mines in the various counties of the State, also men employed in them. Gibson, Martin and Spencer appear, but have no mines in them that employ the required number of men to bring them under the statutes.

Table Showing Number of Mines, etc., in each County.

COUNTIES.	No. of Mines.	No. of Persons.
Clay County	34	2,466
Daviess County	17	540
Dubois County	11	55
Fountain County	17	394
Greene County	8	144
Gibson County	3	5
Knox County	3	86
Martin County	3	15
Owen County	7	115
Perry County	16	132
Parke County	17	682
Pike County	17	367
Sullivan County	13	291
Spencer County	8	30
Vigo County	15	570
Vermillion County	5	152
Vanderburgh County	5	245
Warrick County	16	213
Total	215	6,502